AISI

Alberta Initiative for School Improvement

Improving Student Learning

Provincial Report for Cycle 1 (2000-2003)

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Table of Contents

List of Tables iii
List of Figures iv
Executive Summary v

1 Introduction 1
Background 1
The Alberta Initiative for School Improvement 2
Implementation 3
Project Funding and Scope 3

2 The Alberta Initiative for School Improvement 6
What is AISI? 6
The AISI Projects 7
Targeted Groups of Students 8
Themes and Subjects 8
Teaching Strategies 11
Types of Measures 12

3 Implementation Support 13
The Online System 13
Workshops 13
Annual Conferences 15
Local Consultation 17
The AISI Clearinghouse 17
University Assistance 18

4 Outcomes 19
Measurement Tools 19
Project Effects 21
Achieving Targets in 2003 21
Improvement Over Baseline on 2003 22
Annual Performance 22

Magnitude of Project Effects 24
Three-Year Average Effects 24
Annual Effects 26
Average Annual Effects 27

Effects by Project Classification 28

Provincial Achievement Tests 35
Participation Rates 35
Cohort Achievement 37
Gains in Cohort Achievement Over Time 40

Description of Quality Measures (Narrative Approach) 41

Duration of Projects 41
Early Completion 41
Discontinued Projects 42

Project Team Observations 42
Public School Projects 42
Private School Projects 43
A Complementary Qualitative Analysis 45
Superintendents' Observations 45

5 Lessons and Recommendations 47

Lessons from Cycle 1 47
Student Learning 47
Educators 48
Support and Infrastructure 50

AISI Impacts 52

Recommendations 55
School Authorities 55
Schools 56
Universities 56
Parents 56
Education Partners 57
Government 57

Agenda for Cycle 2 57

Conclusion 58

References 59

Appendices

A. Financial Information 61

B. AISI Projects 65

C. Calculating Effect Sizes and Percentiles 68

D. Provincial Achievement Test Results 71

List of Tables

Table 1.1: Number, Type and Duration of Projects in Cycle 1 4

Table 1.2: AISI Expenditures in Cycle 1 (2000-2003) 4

Table 1.3: AISI Project Support 5

Table 1.4: Alberta Schools Involved in AISI Projects in 2003 5

Table 3.1: Summary of AISI Workshops During Cycle 1 14

Table 3.2: Number of Conference Participants and Response Rate for the Evaluations 15

Table 3.3: Summary of AISI Conference Evaluations 16

Table 4.1: Number and Types of Measures Used to Determine AISI Outcomes 20

Table 4.2: Distribution of Descriptions of Quality Measures 20

Table 4.3: Three-Year Average Project Effects in All School Authorities 25

Table 4.4: Annual Project Effects on Student Achievement, Surveys and All Measures 26

Table 4.5: Descriptive Statistics on Average Effect Sizes for Cycle 1 of AISI 28

Table 4.6: Summary of AISI Effects on Student Achievement and Satisfaction 34

Table 4.7: Self-Ratings of Descriptions of Quality Measures 41

Table 4.8: Superintendents' Plans for Integrating and Sustaining AISI Lessons from Cycle 1 ... 46

List of Figures

Figure 2.1: Major Groups of Students Targeted by AISI Projects 8

Figure 2.2: Major AISI Project Themes 9

Figure 2.3: Major Subject Areas of AISI Projects 9

Figure 2.4: AISI Projects By Division/Grade Level 10

Figure 2.5: Major Teaching Strategies in AISI Projects 11

Figure 2.6: Types of Measures Used to Provide Evidence of Success 12

Figure 4.1: Percentage of Projects Meeting Third-Year Targets in 2003 21

Figure 4.2: Percentage of Projects Improving Over the Baseline in 2003 22

Figure 4.3: Percentage of Projects Meeting Annual Targets (All School Authorities) 23

Figure 4.4: Percentage of Projects Improving Over the Baseline 23

Figure 4.5: Three-Year Average Project Effects in All School Authorities 25

Figure 4.6: Annual Project Effects on Student Achievement, Surveys and All Measures 27

Figure 4.7: Average Annual Effects of AISI Cycle 1 29

Figure 4.8: Three-Year Average Effects for Selected Groups of Students 30

Figure 4.9: Three-Year Average Effects of Selected Curricular Areas 31

Figure 4.10: Three-Year Average Effects of Selected Themes 32

Figure 4.11: Three-Year Average Effects of Selected Instructional Strategies 33

Figure 4.12: Percentage of Students Participating in Provincial Achievement Tests 36

Figure 4.13: Percentage of Students Meeting Standards – English Language Arts (Cohort) 38

Figure 4.14: Percentage of Students Meeting Standards – Mathematics (Cohort) 39

Figure 4.15: Average Gains on Provincial Achievement Tests (Cohort) 40

Executive Summary

The Alberta Initiative for School Improvement (AISI) was developed through a collaborative partnership in 1999 and first implemented in all Alberta school authorities in the 2000/2001 school year. The goal of this program is to improve student learning and performance by fostering initiatives that reflect the unique needs and circumstances of each school authority. AISI provides $68 million targeted funding annually to school authorities for specific local improvement projects. Initially allocated for three years from 2000 to 2003, funding has been extended for a second three-year cycle from 2003 to 2006. The Alberta Government invested $204 million dollars in support of school improvement projects during Cycle 1 of AISI.

Cycle 1 achieved the Minister's 1999 expected outcomes.

1. It developed a program that contributes to improved student learning and performance.
2. It established a foundation of trust between government and education stakeholders.
3. It created a model for collaboration that has been employed in other government initiatives.
4. It established accountability measures and criteria to provide evidence that the initiative is working.
5. And finally, continuous improvement has become AISI's *modus operandi*.

AISI represents an effective approach that focuses on improving student learning through partnerships and collaboration in a culture of continuous improvement, inquiry and reflection. Continuous improvement is a mindset that now permeates the education community in Alberta.

AISI Impacts

During its initial three years of implementation, AISI has had a profound impact on the culture of schools in Alberta.

1. ***Improved student learning*** – AISI had a positive and sustained impact on student learning during Cycle 1. More than 90% of the projects exceeded their baseline on the majority of measures every year. On average over the three years, 48% of the projects improved student learning and 57% improved satisfaction (students, parents, and teachers). AISI students performed slightly better than their non-AISI counterparts on English language arts and mathematics on the grades 3, 6 and 9 provincial achievement tests.

2. ***Culture of continuous improvement*** – Brain research has shown that emotion drives attention, learning, memory and behavior. The emotional investment demonstrated by staff involved with AISI projects has resulted in a renewed energy and excitement for school improvement. AISI promotes a culture of shared responsibility for continuous improvement in schools and jurisdictions that clearly align school improvement goals and classroom practices. Schools operating as learning communities actively engage both teachers and students in learning.

3. ***Renewed focus on teaching and learning*** – There is a renewed focus on learning as the central purpose of schooling. Both teachers and students have benefited from this emphasis on continuous learning and improvement.

4. ***Innovation and creativity*** – AISI is unique as a province-wide, funded initiative to improve student learning that trusts local authorities to decide how to improve student learning by fostering projects that address local needs and circumstances. AISI recognizes that one size does not fit all, that needs vary across the province, and that there are many different ways to accomplish the same goal, namely, improved student learning and performance.

5. ***Shared language*** – Teachers, students, parents and administrators are developing a common language of school improvement. With 90% of Alberta schools involved in an AISI project, the language of improvement – goals, strategies, measures, baselines, targets, and results – are now widely understood and used.

6. ***Research in classrooms*** – More teachers are routinely reading the research literature and becoming better versed in research-based practices for improving teaching and learning. This openness to evidence and new ideas contributes to a culture of continuous improvement in schools.

7. ***New knowledge*** – Teachers are contributing to the body of knowledge about teaching and learning. In many cases they are corroborating the research evidence from other places in the Alberta context.

8. ***Evidence-based decisions*** – Teachers are making better informed decisions about student learning and instructional practices based on solid evidence collected through appropriate assessment strategies that include standardized tests, rubrics, observations, and teacher-made approaches. Schools are surveying students, parents, and staff to get their input into educational processes and desired outcomes.

9. ***Job-embedded professional development*** – There is an increased emphasis on professional development. Schools are using a variety of professional development (PD) strategies to meet local needs and PD has become embedded in school improvement initiatives. School jurisdictions now use markedly different PD models that have evolved from one-time experiences to focused, collaborative and ongoing activities targeted at meeting specific learner needs. Self-direction and application of learnings have changed the way PD is offered with a renewed focus on improving student learning.

10. ***Shared and distributed leadership*** – Staff willingness to take on leadership roles and to involve the school community, parents and students, where appropriate, has facilitated the partnerships needed to achieve school improvement in a holistic way. The partners all contribute to supporting school improvement at both local and provincial levels. AISI has contributed to widespread development of a new generation of education leaders. Many teachers who became AISI coordinators and team leaders went on to school and district leadership positions. A culture of shared/distributed leadership has become common in Alberta schools.

11. ***Engaged parents*** – AISI projects have made a concerted effort to engage parents in meaningful ways in their children's learning and school improvement activities. An effective parental involvement strategy was having children read at home with their parents; this strategy was found to improve student achievement.

Scope and Funding

There were 828 Cycle 1 projects, the majority (74%) of which were for three years: 526 public and 302 private projects. AISI projects were implemented in 90% of all public and private K-12 schools in Alberta.

Staffing and benefits over the three years represented almost 84% of total AISI expenditures for over 1,000 full-time equivalent teachers, teacher assistants and AISI coordinators per year. Supplies and services, capital and other expenses represented about 10%, 3% and 3% respectively of total AISI expenditures over the three years. Approximately 17% was expended on professional development (substitute cost, release time, outside instructors, supplies and equipment) and about 5% on administrative support.

AISI Projects

Project statistics are based on 807 projects[1] operating in active school authorities.

- ***Targeted Student Groups*** – Most projects included regular students (523 projects, 64.8%). Special-needs students were targeted in 230 projects (28.5%) and students at-risk in 178 projects (22.1%).
- ***Subjects*** – Literacy accounted for 34.3% and mathematics accounted for 15.6% of the projects. Ninety-three projects (11.5%) focused on all core subjects (language arts, mathematics, social studies, and science). Two other areas addressed were fine arts (4.1%) and science (4.0%).
- ***Themes*** – The major themes were (1) capacity building [primarily through teacher professional development (30.5%) and the purchase of teaching and learning resources (29.0%)], (2) technology (17.5%), (3) early intervention (10.7%), and (4) parent/community involvement (10%). Professional development overlaps with most of the other themes indicating that it was integral to the projects.
- ***Division/Grade Level*** – The majority of the projects were at the elementary (Kindergarten to grade 6) and junior high (grades 7 to 9) levels. There were fewer at the high school level (246 projects, 30.5%). Eight-four projects (10.4%) included students in pre-kindergarten.
- ***Instructional Strategies*** – The most widely used teaching strategies were small groups (88 projects, 10.9%), individual programming (64 projects, 7.9%), experiential learning (58 projects, 7.2%), accommodating learning styles (47 projects, 5.8%), computer-assisted instruction (44 projects, 5.5%), and differentiated instruction (41 projects, 5.1%).

Measures and Analysis

The most commonly used measures were descriptions of quality (62.5%) and surveys (59.4%). Descriptions of quality differ from other measures in that they are narrative. Achievement tests were used extensively: provincial achievement tests (39.0%), standardized tests (22.9%), and locally developed teacher tests (14.9%). Other measures included school records (15.2%), observation/checklists (13.5%), and program participation (12.5%).

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[1] Twenty-one private projects were discontinued because the private school or private ECS authority discontinued operations. Therefore, project statistics are based on the 807 projects operating in active school authorities.

Alberta Learning performed four types of analyses to determine project success:

- Results that improved over the baseline.
- Results that met or exceeded annual targets.
- Magnitude of improvement through effect size analysis.
- Relative effects of various project categories through meta-analysis.

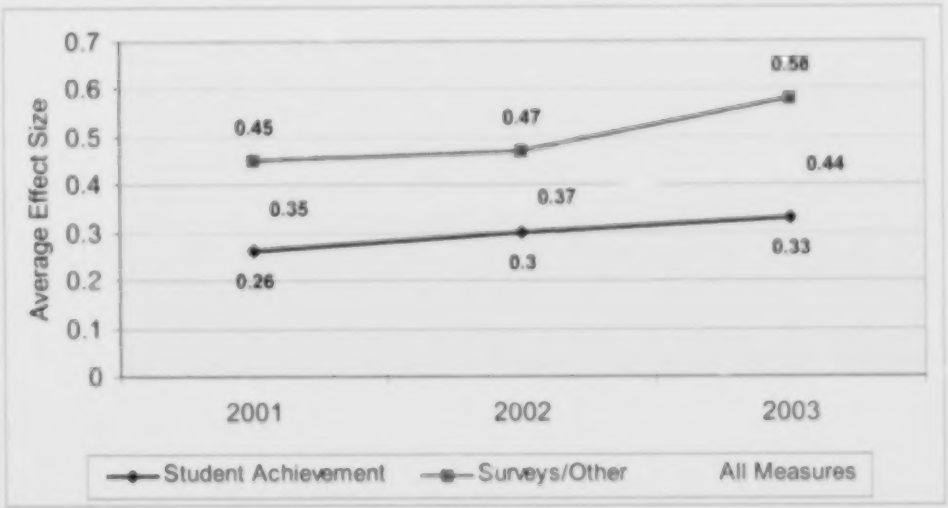
Project Effects

- There was a gradual increase in the average annual effects on all measures indicating that **AISI had a positive and sustained impact during Cycle 1.** See Figure 1.

- More than 90% of all projects **exceeded their baseline** on the majority of measures every year (94%, 92%, and 91% for the three years respectively). Almost six in ten projects (58%) exceeded their baseline on all measures in 2001; this decreased slightly to half the projects in 2002 and 2003 (47% and 50% respectively).

- The percentage of projects meeting **annual targets** on the majority of measures declined slightly over time: 81% in the first year, 74% in the second year, and 69% in the third year of AISI. Thirty-nine percent of projects met targets on all measures in the first year, 30% in the second year, and 28% in the third year.

Figure 1: Average Annual Effects of AISI Cycle 1



Differential Effects

Meta-analysis identified differential effects for groups of students, curricular areas, themes, and instructional strategies. See Table 1.

Table 1: Summary of AISI Effects on Student Achievement and Satisfaction

Effect Size*	Student Groups	Selected Subjects	Selected Themes	Instructional Strategies
Student Achievement				
Medium (0.4-0.7)		• Science	• Early intervention	• Reading with parents at home • Technology integration
Small (0.2-0.3)	• At risk • Special needs • Regular	• Early literacy • Math • Fine arts	• Transition to high school • High school completion	• Small groups • Counselling • Peer assistance • Differentiation • Small class size
Minimal (Less than 0.2)	• Gifted		• School climate/ behavior	
Satisfaction (Students, Parents, Teachers)				
Large (0.8 +)				• **Peer assistance**
Medium (0.4-0.7)	• At risk • Regular • Special needs	• Fine arts • Science • Math	• High school Completion • Transition to high school • School climate/ behavior	• Counselling • Technology integration • Reading with parents at home • Small class size • Differentiation • Small groups
Small (0.2-0.3)	• Gifted	• Early literacy	• Early intervention	
Minimal (Less than 0.2)				

*Effect sizes of 0.2 correspond to gains of about 8 percentile points, 0.4 of about 16 percentile points, and 0.7 of about 26 percentile points.

Student Achievement – Generally, student achievement improved.

- Students who were at risk or had mild/moderate needs showed greater improvement (0.30 and 0.28 respectively) on student achievement than those in regular (0.23) or gifted (0.10) programs.
- Science projects demonstrated the largest effects (0.35) followed by early literacy (0.30).
- Early intervention projects had the largest effects (0.43) followed by transitions to high school (0.34) and high school completion (0.31) projects.
- The most effective instructional strategies were reading with parents at home (0.38), technology integration (0.36), small groups (0.34), counselling (0.33), and peer assistance (0.30).

Satisfaction – AISI had a greater impact on satisfaction (students, parents, and teachers) than on student achievement, with moderate effects for most of the categories examined.

Table 1: Summary of AISI Effects on Student Achievement and Satisfaction

Effect Size*	Student Groups	Selected Subjects	Selected Themes	Instructional Strategies
Student Achievement				
Medium (0.4-0.7)		• Science	• Early intervention	• Reading with parents at home • Technology integration
Small (0.2-0.3)	• At risk • Special needs • Regular	• Early literacy • Math • Fine arts	• Transition to high school • High school completion	• Small groups • Counselling • Peer assistance • Differentiation • Small class size
Minimal (Less than 0.2)	• Gifted		• School climate behavior	
Satisfaction (Students, Parents, Teachers)				
Large (0.8 +)				• Peer assistance
Medium (0.4-0.7)	• At risk • Regular • Special needs	• Fine arts • Science • Math	• High school Completion • Transition to high school • School climate/ behavior	• Counselling • Technology integration • Reading with parents at home • Small class size • Differentiation • Small groups
Small (0.2-0.3)	• Gifted	• Early literacy	• Early intervention	
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Satisfaction – AISI had a greater impact on satisfaction (students, parents, and teachers) than on student achievement, with moderate effects for most of the categories examined.

Provincial Achievement Tests

Provincial achievement test results provide another way to examine the impact of AISI. All public and private schools were categorized as participating (AISI students) or not participating (non-AISI students)[2] in a literacy/language arts or mathematics project at grades 3, 6 or 9. Results are presented for the cohort[3], which presents results for all students in the grade, both writers and non-writers. Results are reported for the acceptable standard[4].

- In both ***English Language Arts*** and ***mathematics***, AISI students performed slightly better than their non-AISI counterparts at grades 3, 6, and 9.
- While differences were already evident in the three years (1998-2000) before AISI, the gap between AISI and non-AISI students widened slightly over time.
- Over the three years, AISI students tended to improve performance slightly while non-AISI students tended to decrease performance slightly.
- Grade 9 mathematics achievement is anomalous, that is, it declined over time for both groups of students.

Recommendations

The results of AISI Cycle 1 lead to a number of recommendations for all partners during Cycle 2. Recommendations are proposed for school authorities, schools, universities, parents, education partners, and government.

School Authorities

1. School authorities should continue to focus their AISI projects on improving student learning and performance to address local needs and circumstances. Project focus must continue to be on student learning, with all other actions in support of this goal.

2. School authorities should ensure appropriate and adequate project support through appointment of one or more project coordinator(s) responsible for overall coordination and support of each project. AISI funds should be used for coordinator time as determined by local needs.

3. School authorities should integrate what was learned during Cycle 1 into their policies, programs and practices.

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[2] Non-AISI students are those who attended schools that did not have an AISI literacy (for math results) or math (for language arts results) project at grades 3, 6 or 9. This approach was used to come up with a comparison group since more than 90% of all K-12 schools in Alberta were involved in an AISI project during Cycle 1.

[3] The cohort essentially assumes that those who did not write would have received a score of zero. If a school has a high participation rate of students writing the test, achievement results are for the cohort would be similar to those of students writing. As the participation rate decreases, the cohort result declines accordingly.

[4] The acceptable standard includes the standard of excellence. A student achieving the acceptable standard shows an adequate understanding of the core knowledge and adequate basic skills essential to a course. A student achieving the standard of excellence consistently shows a deeper understanding of the concepts of a course. Few AISI projects used the standard of excellence as a measure.

4. School authorities should share what has been learned, both within the district and with others by posting promising practices, products and tools on the AISI Clearinghouse.

5. School authorities should focus on the selection of relevant measures to collect data, comprehensive analysis and interpretation of findings, and documented evidence of success.

6. School authorities should involve staff and parents in all phases of planning, implementation and analysis of results. Projects should reflect support of those who will implement them.

7. School authorities should provide opportunity for focused and sustained staff professional development that focuses on improving student learning through achievement of project goals. This has the greatest potential for transforming practice. All staff should be involved in professional development that is collaborative and meaningful.

Schools

8. Professional learning communities foster supportive and shared leadership, collective creativity, shared values and vision, supportive conditions, and shared personal practice[5]. School-wide projects that involve all staff (in project design, implementation and evaluation of results) are more likely to sustain a culture of continuous improvement.

9. Schools should plan for staff collaboration on AISI activities. Joint planning, developing and implementing instructional strategies, and analyzing and reporting results fosters staff capacity and commitment to the project.

10. Schools should integrate what was learned during Cycle 1 into their policies, programs and practices.

11. School improvement plans should incorporate school-wide professional development for staff.

12. Schools should make greater efforts to involve parents in school and their AISI projects. Parents are their children's first teachers and their most important advocates. Involvement of parents and school councils can enhance communication between the school and home and contribute to improved student learning.

Universities

13. AISI contains a wealth of data for scholarly analysis of an innovative province-wide school improvement initiative. Graduate students could make aspects of AISI their thesis and dissertation topics. This would contribute to further in-depth analysis of AISI results and scholarly documentation of AISI.

14. Faculties of Education are essential in incorporating what is learned through AISI into both their initial teacher preparation and graduate programs. Alberta schools have become a natural laboratory for educational improvement.

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[5] Hord (1997).

15. Wherever possible, student teachers should be placed in AISI schools to learn first-hand about new instructional strategies and to participate in a culture of continuous improvement. Teachers in these schools can provide excellent coaching and mentoring for the new generation of prospective teachers.

Parents

16. Parents should actively engage in the education of their children. Parents who support their children in their schooling and educational aspirations increase their children's life prospects.

17. Parents should become involved in AISI through their schools and through their school councils.

18. The Alberta Home and School Councils' Association and Alberta Regional Consortia should provide professional development and support for parents, including knowledge about and involvement in AISI.

Education Partners

19. Education partners should continue to demonstrate leadership and work collaboratively so that AISI fulfils its potential.

20. Education partners should ensure that AISI continues to focus on improving student learning and performance.

21. Education partners should continue to assess AISI and to use evidence to inform recommendations.

22. Education partners should share effective practices with their constituents.

Government

23. Alberta Learning should continue to ensure that AISI funding remains targeted. Government is demonstrating its commitment to school improvement by continued targeted funding for Cycle 2 of AISI.

24. Alberta Learning should continue to enhance its staff knowledge about AISI and should integrate what was learned during Cycle 1 into its policies, programs and practices.

25. Alberta Learning should use AISI evidence to inform decision making.

26. The School Improvement Branch should continue to expand the development of the Clearinghouse and support the sharing of effective practices.

27. The School Improvement Branch should continue to provide support to school authorities in the areas of project design, implementation, and evaluation.

Conclusion

Major investments should continue to be made in educational research, particularly active, classroom-based research through the highly successful Alberta Initiative for School Improvement.
Alberta's Commission on Learning (2003, p. 37)[6].

AISI – what a lovely, and sensible, research-based idea you all have put into effect, namely, that to improve schools at the local level one should base plans on the perceived needs of those at the local level. David Berliner (2004)[7]

Cycle 1 of AISI achieved all of the Minister's 1999 expected outcomes. It developed a program that contributes to improved student learning and performance. It established a foundation of trust between government and education stakeholders. It created a model for collaboration that has been employed in other government initiatives. It established accountability measures and criteria to provide evidence that the initiative is working. And finally, continuous improvement has become AISI's *modus operandi*.

This collaborative initiative between government and its partners[8] and Alberta teachers, administrators, trustees, parents, and universities in achieving a common goal – improved student learning and performance – through locally developed and implemented projects that address unique needs and circumstances is in the vanguard of improvement initiatives around the world. It provides funding for every school authority in the province to establish its own improvement projects. Cycle 1 has demonstrated that the trust in local priorities and implementation was justified.

AISI represents an effective approach that focuses on improving student learning through partnerships and collaboration in a culture of continuous improvement, inquiry and reflection. Even though AISI has met expectations and raised the standard for school improvement, it is still a work in progress. Continuous improvement is a mindset that now permeates the education community in Alberta. As a consequence, AISI is refining its processes and putting higher expectations in place for local projects to improve student learning during Cycle 2.

There is still much to be done in identifying and using better ways to measure desired outcomes. More in-depth analyses will also allow us to mine the treasure trove of promising practices in instructional strategies, project leadership, and collaboration. There is also an expectation that creativity, innovation and integration of effective practices will become the norm during Cycle 2.

The next three years of AISI will consolidate emerging knowledge and synthesize what works. It will build on the enthusiasm and commitment from the first cycle and expand AISI's sphere of influence to more teachers and students in Alberta. During Cycle 2, greater focus on collecting the right data, in-depth analysis of promising practices, and further dissemination of findings will be fundamental to the future success of AISI.

We've only just begun![9]

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[6] Alberta's Commission on Learning. (2003). *Every child learns, every child succeeds. Report and recommendations.*
[7] Berliner, D. (2004, January). *Using research to improve student learning.* Keynote address at AISI conference III.
[8] Alberta Home and School Councils' Association (AHSCA), Alberta School Boards Association (ASBA), Alberta Teachers' Association (ATA), Association of School Business Officials of Alberta (ASBOA), College of Alberta School Superintendents (CASS), Universities (Alberta, Calgary, Lethbridge).
[9] Carpenters (1970). Song by Paul Williams & Roger Nichols.

1 Introduction

The Alberta Initiative for School Improvement (AISI) reflects government's commitment to fostering the improvement of student learning by providing support for teachers, parents, and the community to work collaboratively to design, implement and evaluate innovative and creative school improvement projects. AISI is based on the belief that an effective school improvement program should address local needs and circumstances, and be collaboratively planned, developed and implemented in a climate of trust, flexibility, and common purpose.

AISI was developed through a collaborative partnership in 1999 and first implemented in all school authorities in Alberta during the 2000/2001 school year. The goal of this initiative is to improve student learning and performance by fostering projects that reflect the unique needs and circumstances of each school authority. AISI provides $68 million targeted funding annually to school authorities for specific local improvement projects. Initially allocated for three years, funding has been extended for a second three-year cycle from 2003 to 2006. To date government has invested $204 million dollars in support of school improvement projects.

Background

Alberta Learning spent a year developing and mobilizing the Alberta Initiative for School Improvement before it was implemented in the 2000/2001 school year. In July 1999, the Deputy Minister invited five key associations to participate in a collaborative process to develop a program to improve student learning and performance in Alberta. Each association could appoint two representatives. All five associations accepted the invitation:

- Alberta Home and School Councils' Association (AHSCA)
- Alberta School Boards Association (ASBA)
- Alberta Teachers' Association (ATA)
- Association of School Business Officials of Alberta (ASBOA)
- College of Alberta School Superintendents (CASS)

Development began in August when the Minister met with representatives of these organizations. He outlined five expected outcomes of the consultation process:

1. Development of a program that improves student learning and performance.
2. Establishment of a solid foundation of trust between government and stakeholder groups.
3. Creation of a model for future collaboration between Alberta Learning and external stakeholders.

4. Establishment of accountability measures and criteria to provide evidence that the initiative works.
5. Continuous improvement of the initiative.

The AISI Task Team, consisting of Alberta Learning staff and association representatives, became the Education Partners Steering Committee (EPSC). The School Improvement Branch (SIB) was established to serve as the Secretariat for AISI. In December 1999, the *AISI Framework* and the *AISI Administrative Handbook* were published and distributed to school authorities and posted on the Alberta Learning website. AISI partners invited the four Faculties of Education[10] at Alberta universities to join the partnership in spring 2000.

The Alberta Initiative for School Improvement

AISI is an extension of Alberta's accountability framework that has been in place since the early 1990s. For example, since November 1996, school boards have been reporting to their publics on how well their students are performing on a variety of measures. AISI provides funding to school authorities for specific local initiatives to improve student learning and performance.

The *goal* of AISI is to improve student learning and performance by fostering initiatives that reflect the unique needs and circumstances within school jurisdictions. It has *six principles:*

1. Funding flows to school jurisdictions and charter schools based upon approved proposals.
2. Proposals may be multi-year (maximum of three years) but must have interim (at least annual) progress measurement targets. Continued funding depends upon evidence of success.
3. Funding consisting of an equal amount per registered FTE (Full Time Equivalent) student is based upon the previous year's September 30th count.
4. Jurisdiction proposals need to be linked to, and become part of, the current three-year planning and reporting process for purposes of the school jurisdiction's annual planning, reporting and accountability processes.
5. There is an appropriate balance of local and provincial performance measures that includes approved quantitative and/or qualitative measures.
6. Project results are shared with Alberta school jurisdictions and others while Alberta Learning acts as the "clearinghouse" on behalf of all partners.

Further elaboration of the principles is found in the *Framework for the Alberta Initiative for School Improvement* (AISI Education Partners Steering Committee, 1999). Administrative requirements and local and provincial processes are outlined in the *AISI Administrative Handbook* (AISI Education Partners Working Group, 1999).

Each partner organization is responsible for working with its own constituents to ensure the AISI principles are followed. The partners are continuing their collaboration to decide on priorities and to identify issues, challenges and enhancements to the AISI program and its processes.-

[10] Faculty of Education and Faculté Saint-Jean at the University of Alberta, and the Faculties of Education at the University of Calgary and the University of Lethbridge.

In May 2000, AISI partners participated in a symposium at the annual conference of the Canadian Society for the Study of Education in Edmonton. The proceedings of this symposium, entitled *AISI Opportunities and Challenges*, provide the partners' perspectives on the first year of AISI development. All AISI materials are available on Alberta Learning's website at http://www.learning.gov.ab.ca/k-12/special/aisi

Implementation

The first AISI cycle ran from 2000 to 2003. School authorities initiated more than 800 projects that addressed local needs and circumstances to improve student learning. Project descriptions and results are published on the Alberta Learning website.

All written transactions between school authorities and Alberta Learning are conducted through a secure online management system used for submission of project proposals and annual reports. School authorities work directly on the system to update information. Alberta Learning reviews and approves project proposals and reports and communicates decisions to school authorities. Once all requirements have been met, the information is made public on the AISI Clearinghouse – a one-stop repository for all AISI information related to projects, results, promising practices and lessons learned from Alberta's focus on school improvement.

Alberta Learning supports projects through provincial workshops, site visitations, and ongoing one-on-one assistance to AISI project teams in the field. An annual provincial conference highlights successes and provides opportunities for networking and sharing promising practices.

Project Funding and Scope

All school authorities in Alberta (ECS to grade 12) are eligible to receive AISI funding. The annual per-student rate is determined by the total AISI dollars allocated each year by the provincial government divided by the number of full-time equivalent registered students. The current rate is $120 per registered student in grades 1 to 12 in public school authorities, $72 for private school students (60% of public school funding), and $60 for Early Childhood Services (Kindergarten) students.

There are 74 public (public, separate and Francophone districts, and charter schools) and 231 private school authorities (115 private school and 116 ECS private operators) in Alberta. Table 1.1 presents the number, type and duration of the AISI projects over the three years. In total there were 828 projects, the majority (74%) of which were for three years. The remaining projects were divided between one and two years (14% and 13% respectively). There were 526 public and 302 private projects. More public (78%) than private (67%) projects continued for three years. Of the total number of projects, 21 private projects were discontinued because the private school or private ECS authority discontinued operations. Therefore, project statistics are based on the 807 projects operating in active school authorities.

Table 1.1: Number, Type and Duration of Projects in Cycle 1

Duration	Project Years	Public	Private	Total	% of Total
1 Year Projects	2001 only	23	31	54	6.5
	2002 only	6	4	10	1.2
	2003 only	32	18	50	6.0
	Total	**61**	**53**	**114**	**13.7**
2 Year Projects	2001-2002	34	23	57	6.9
	2002-2003	20	23	43	5.2
	Total	**54**	**46**	**100**	**12.1**
3 Year Projects	2001-2003	411	203	614	74.2
Total		**526**	**302**	**828**	**100.0**

Table 1.2 presents the AISI expenditures in Cycle 1. Expenditures on staffing and benefits over the three years represented almost 84% of total AISI expenditures and over 1,000 full-time equivalent teachers, teacher assistants and AISI coordinators per year. Supplies and services, capital and other expenses represented about 10%, 3% and 3% respectively of total AISI expenditures over the three years. Expenditures include those funded from contributions to AISI projects from other sources. These totaled 4.5% of funding for all projects, representing about $9 million of AISI expenditures. Appendix A provides the expenditure detail by project year and compares budgeted expenditures to actual.

Table 1.2: AISI Expenditures in Cycle 1(2000-2003)

Expense Category	Public Authorities		Private Authorities		All Authorities	
	($ 000's)	%	($ 000's)	%	($ 000's)	%
Staffing and Benefits	$ 165,952	84.8	$ 3,385	55.2	$ 169,337	83.9
Supplies and Services	19,022	9.7	1,481	24.2	20,503	10.2
Equipment and other capital	5,372	2.7	1,156	18.8	6,528	3.2
Other Expenses	5,403	2.8	111	1.8	5,514	2.7
Total Expenses	**$ 195,749**	**100.0**	**$ 6,133**	**100.0**	**$ 201,882**	**100.0**

Table 1.3 presents the percentage of AISI funds spent on project support. Of the expenditures for Cycle 1, about 17% was expended on professional development (substitute cost, release time, outside instructors, supplies and equipment) and about 5% on administrative support.

Table 1.3: AISI Project Support

Project Support Category	Public Authorities (% of total expenses)	Private Authorities (% of total expenses)	All Authorities (% of total expenses)
Professional Development	16.8	15.1	16.7
Administrative Support	4.9	3.8	4.8

All Alberta school authorities participated in AISI. Table 1.4 demonstrates that AISI projects were implemented in 90% of all schools in Alberta: 89.4% of public, separate, francophone and charter schools and 95.6% of funded private schools (including ECS private operators) were involved in at least one AISI project during Cycle 1.

Table 1.4: Alberta Schools Involved in AISI Projects in 2003

Schools	Public		Private		Total	
	Number	%	Number	%	Number	%
Involved in AISI	1,579	**89.4**	217	**95.6**	1,796	**90.1**
Not Involved	188	**10.6**	10	**4.4**	198	**9.9**
Total	**1,767**	**100.0**	**227**	**100.0**	**1,994**	**100.0**

2 The Alberta Initiative for School Improvement

What is AISI?

AISI is a bold approach to supporting the improvement of student learning by encouraging teachers, parents, and the community to work collaboratively to introduce innovative and creative initiatives based upon local needs and circumstances. AISI is characterized by the following 11 attributes:

1. ***Partnership*** – AISI is a partnership among teachers, superintendents, trustees, business officials, universities, parents, and government. The AISI partnership is characterized by trust, collaboration, and teamwork among the education partners who share a commitment to improving education for Alberta students, who are the beneficiaries of this strong and diverse partnership. By working together, the partners continue to develop new relationships, strategies, and practices that provide long-term benefits to teaching and learning in our province.

2. ***Catalyst*** – AISI is a catalyst for change. The common goal, targeted funding, partnership, positive climate, and supportive infrastructure act in concert to achieve significant change in teaching and learning.

3. ***Student focused*** – AISI communicates a compelling commitment to school improvement that aligns with the long-term vision of Alberta Learning. Students are active and engaged learners. AISI projects continue to strengthen the focus on student learning and accommodate the diverse learning needs of individual students and special populations.

4. ***Flexibility*** – School authorities choose strategies that enhance learning in the local context.

5. ***Collaboration*** – Collaboration is an essential element for school improvement. Projects are developed and implemented with meaningful involvement of the school community. The active engagement of staff, students, parents and partners is critical to project success.

6. ***Culture of Continuous Improvement*** – AISI promotes a culture of continuous improvement that is evident in schools and jurisdictions that clearly align school improvement goals and classroom practices. Continuous improvement is a shared responsibility. Schools operating as professional learning communities actively engage both teachers and students in learning. Professional development and ongoing administrative support are critical components in realizing continuous improvement within schools and school systems.

7. ***Evidence-based Practice*** – Evidence that educational practices benefit student learning and performance, through the collection, analysis and interpretation of data, is foundational to AISI. The use of multiple methods and data sources gives Albertans confidence in the results. As the body of evidence on successful practices grows, integration of these practices in new contexts will be the challenge and the promise of AISI.

8. ***Research-based Interventions*** – Solid research provides a reasonable expectation that improvement will occur. Implementation of effective instructional strategies is core to AISI projects. AISI is a vehicle for testing the efficacy of these interventions in the Alberta context.

9. ***Inquiry and Reflection*** – Many factors affect student learning. A clear focus on student learning is the foundation for inquiry and reflection. Inquiry and reflection lead to improved understanding and thoughtful changes to instructional practice. Analyzing strategies that worked and building on them lead to continuous improvement. Strategies that did not work as expected can provide important information about what needs to change and what might be successful.

10. ***Building Capacity and Sustainability*** – Professional development continues to ensure that teachers and students benefit from the emerging knowledge, practices, and technologies that are being developed through AISI. Effective PD is planned, systemic and sustained. Promising practices, tools, products and processes developed and/or acquired through AISI will benefit Alberta's students in the future.

11. ***Knowledge*** – AISI contributes to the body of knowledge about teaching, learning, and instructional improvement. The AISI family shares this knowledge widely through conferences, reports, the Clearinghouse, and provincial networking sessions.

The AISI Projects

AISI is a province-wide school improvement program in which individual school authorities (through collaboration and prioritization) decide:

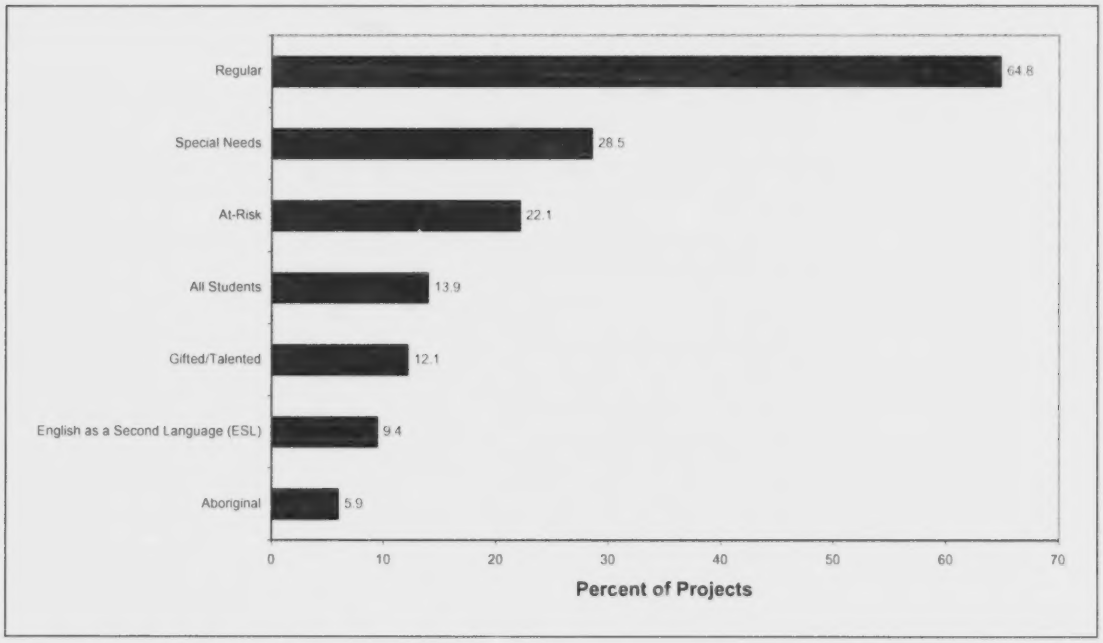
1. which areas of student learning and performance need attention,
2. how to go about improving these areas (new teaching strategies, student support), and
3. how to provide evidence that improvement has taken place (measuring student performance).

The following subsections provide a description of the AISI projects in Cycle 1 according to target population, themes and subjects, division/grade level, and teaching strategies. These summarized descriptions are based on the approved project plans. Appendix B presents the supporting table for each figure in subsequent sections of this chapter.

Targeted Groups of Students

Students were classified into one of ten categories. As with all the subsections, more than one category could be selected. The results are based on the 807 projects operating in active school authorities over the three-year period. Figure 2.1 presents the major groups of students targeted by AISI projects. The table for Figures 2.1 to 2.6 in Appendix B provides the details. Most projects included regular students (523 projects, 64.8%). Special-needs students were targeted in 230 projects (28.5%) and students at-risk in 178 projects (22.1%). All students were included in 112 projects (13.9%).

Figure 2.1: Major Groups of Students Targeted by AISI Projects



Themes and Subjects

AISI projects were classified according to 21 themes. Figure 2.2 presents the most common themes. The major themes were capacity building [primarily through teacher professional development (30.5%) and the purchase of teaching and learning resources (29.0%)], technology (17.5%), early intervention (10.7%), and parent/community involvement (10%). Professional development overlaps with most of the other themes indicating that it was integral to the projects.

Figure 2.2: Major AISI Project Themes

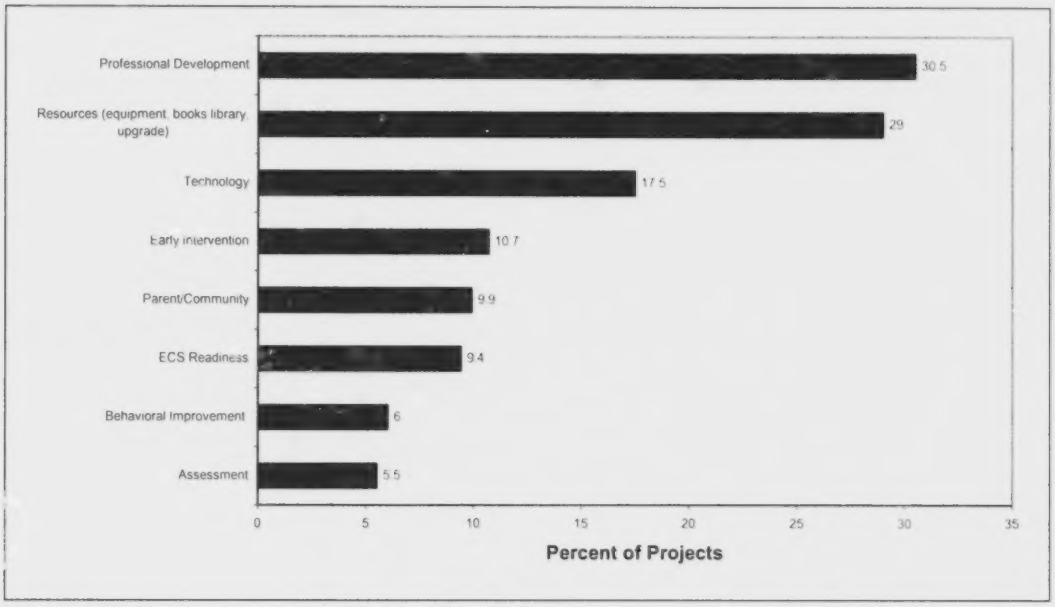


Figure 2.3 presents the major subject areas. The overwhelming areas of interest were literacy and mathematics; literacy accounted for 34.3% and mathematics accounted for 15.6% of the projects. Ninety-three projects (11.5%) focused on all core subjects (language arts, mathematics, social studies, and science). The other two main areas addressed were fine arts (4.1%) and science (4.0%).

Figure 2.3: Major Subject Areas of AISI Projects

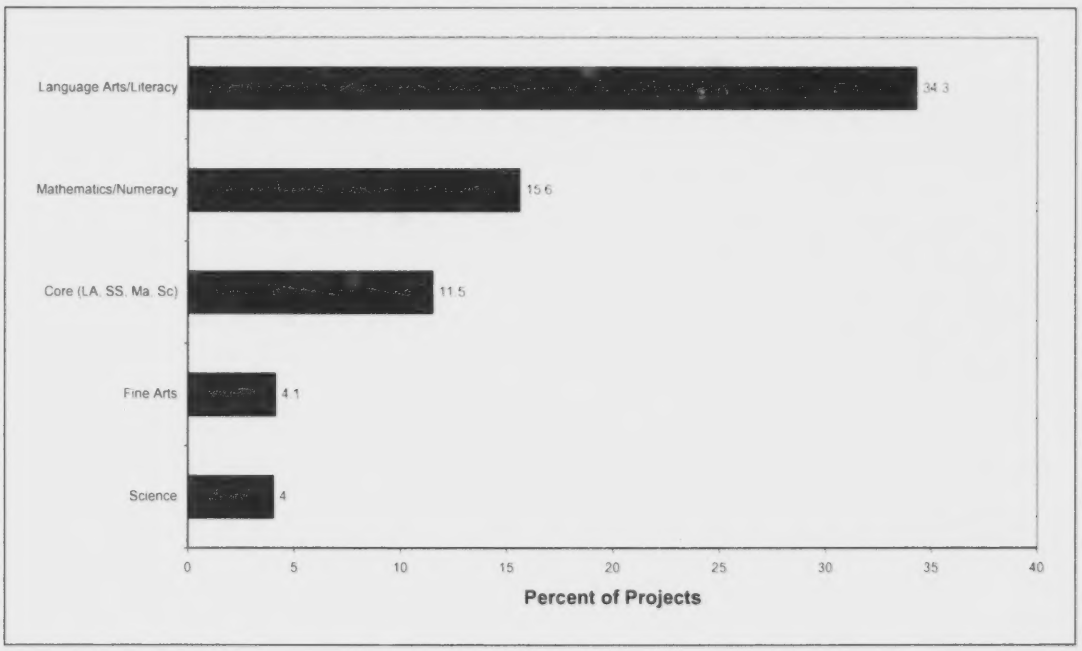
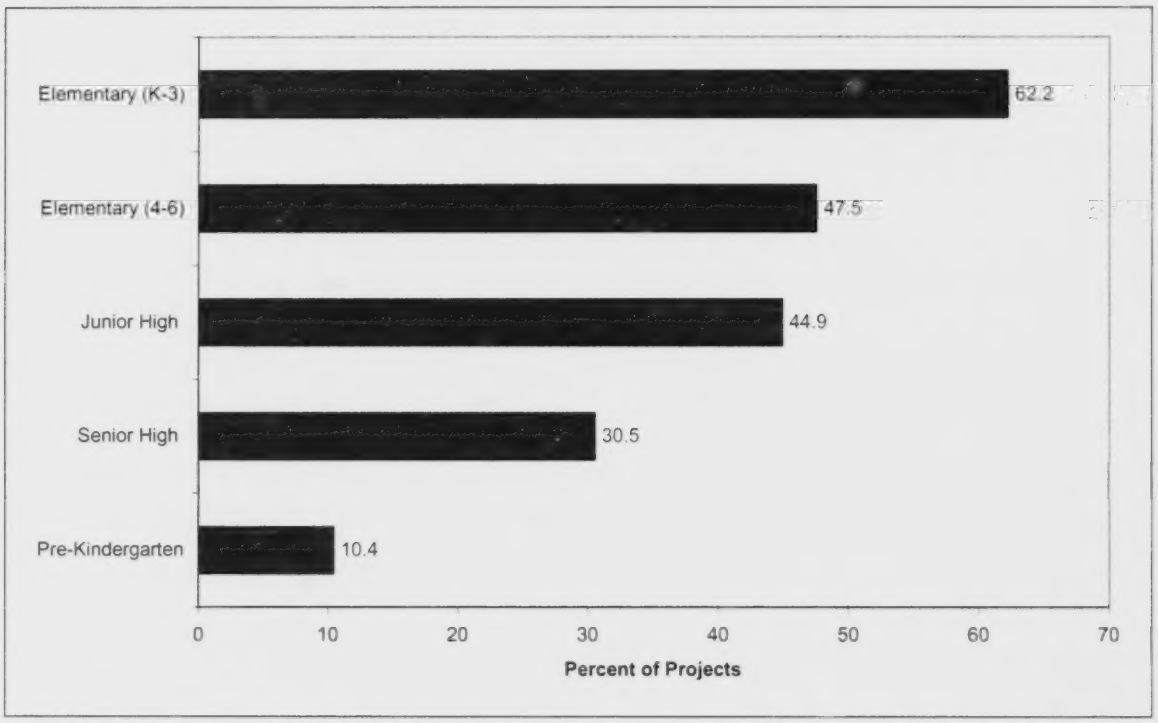


Figure 2.4 presents the distribution of projects across grade levels. Since many schools in Alberta encompass several grades, there is considerable overlap. The majority of the projects included students in the elementary (Kindergarten to grade 6) and junior high (grades 7 to 9) levels. There were fewer at the high school level (246 projects, 30.5%). Eight-four projects (10.4%) included students in pre-kindergarten.

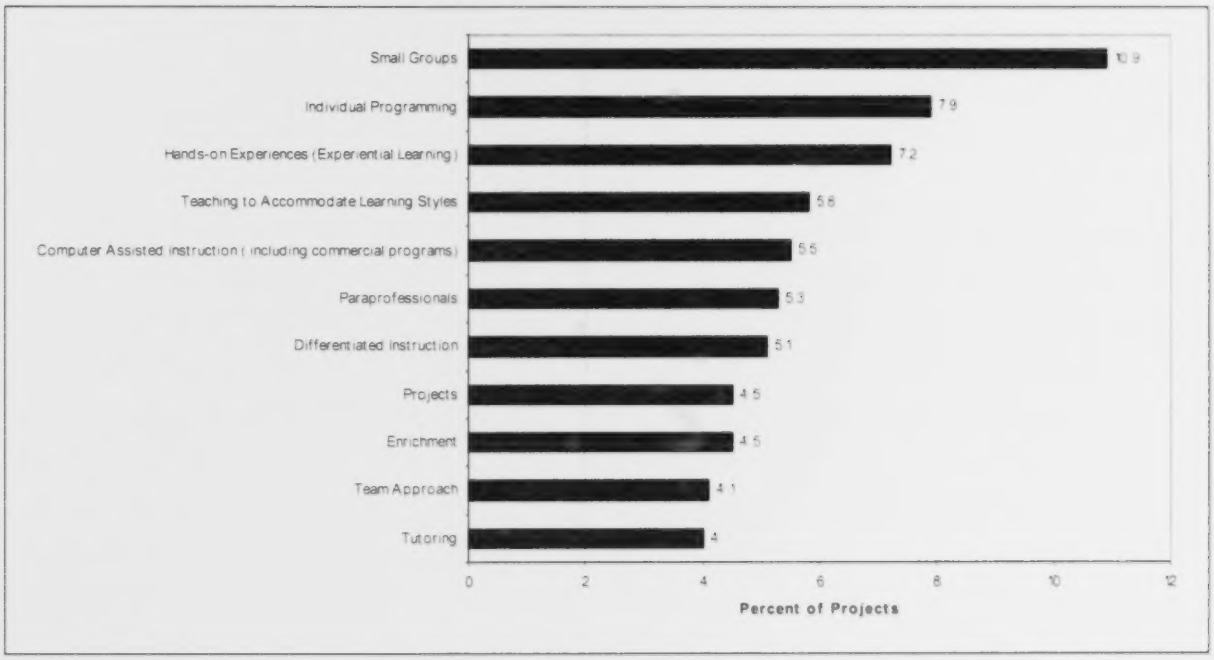
Figure 2.4: AISI Projects By Division/Grade Level



Teaching Strategies

Teaching strategies were coded into one or more of 27 categories. Most projects used two or more teaching strategies. Figure 2.5 presents the results in descending order of frequency of the most common strategies (each accounting for 4% or more of the projects). The most widely used teaching strategy was small groups (88 projects, 10.9%). This was followed by the use of individual programming (64 projects, 7.9%) and experiential learning (58 projects, 7.2%). The remaining commonly used strategies consisted of teaching to accommodate learning styles (47 projects, 5.8%), computer-assisted instruction (44 projects, 5.5%), use of paraprofessional staff (5.3%), and differentiated instruction (41 projects, 5.1%).

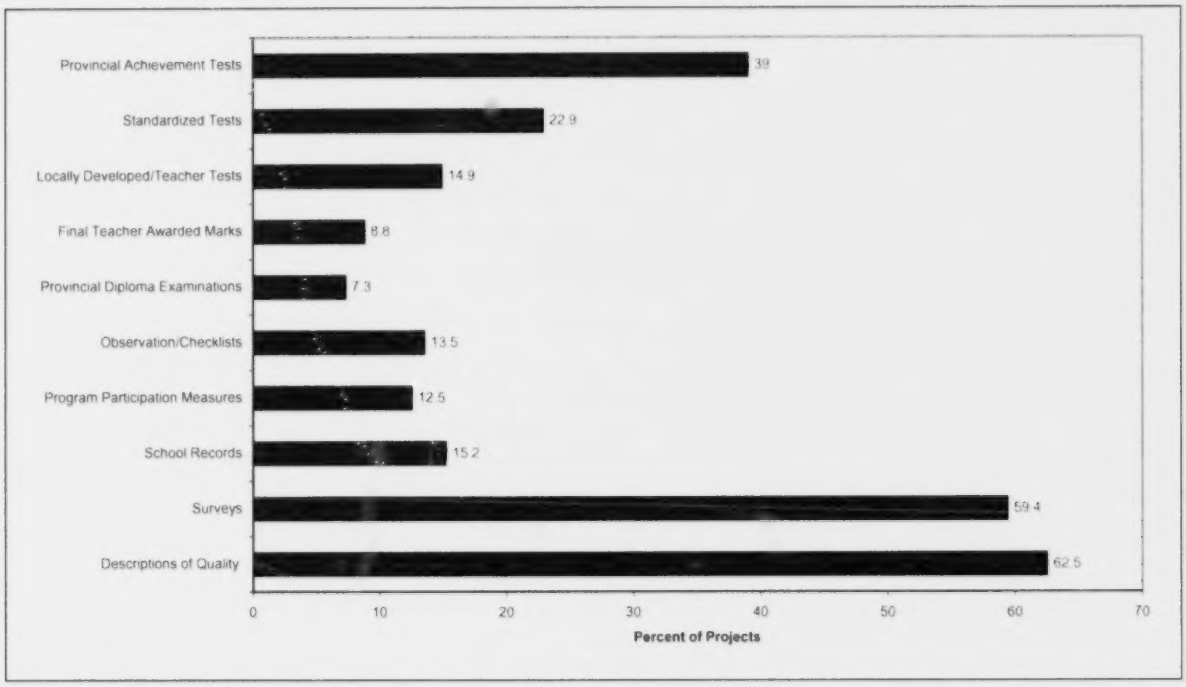
Figure 2.5: Major Teaching Strategies in AISI Projects



Types of Measures

Every project had at least one measure of student learning (whether quantitative, qualitative, or a description of quality). The most commonly used measures were descriptions of quality (62.5%) and surveys (59.4%). Descriptions of quality differ from the other measures in that they are narrative. Achievement tests were used extensively: provincial achievement tests (39.0%), standardized tests such as Canadian Tests of Basic Skills, Gates-MacGinite and Brigance Tests (22.9%), and locally developed teacher tests (14.9%). Other measures included school records (15.2%), observation/checklists (13.5%), and program participation (12.5%).

Figure 2.6: Types of Measures Used to Provide Evidence of Success



3 Implementation Support

The School Improvement Branch and AISI partners provided a number of supports to project coordinators and school authorities to help them in implementing their local projects. These included the online system, workshops, annual conferences, local consultations, phone and e-mail support, creation of the AISI Clearinghouse, and university consultative assistance.

The Online System

Efficient and effective management of the AISI business processes is a prerequisite to AISI success. The School Improvement Branch designed project review, approval and internal management systems to facilitate communication with school authorities and documentation of proposals and reports. The resulting secure online extranet AISI management system is used for submission of project proposals and annual reports. The system enables school authorities to review and update their project plans and share information. Over the three years of AISI Cycle 1, this system has undergone refinements to enhance its capacity and performance.

The School Improvement Branch uses the system to review and approve project proposals and reports, and to communicate decisions to school authorities. It also uses the system to generate operational and financial reports. The extranet system is one legacy of AISI that may be used to manage future school improvement initiatives.

Workshops

The success of AISI rests on the implementation of projects by local project coordinators and local project staff. With more than 800 projects under way in Alberta during Cycle 1, regular communication with the many project participants to ensure a shared understanding of the scope, objectives, and accountabilities of the initiative was essential. Opportunities for local coordinators and project staff to share ideas and discuss challenges with their counterparts in other school authorities were provided through workshops and conferences.

Generally, workshops had three main objectives: discussion of a key topic relevant to the coordinators at the time (e.g., the roles and responsibilities of coordinators in fall 2000), opportunities to network and meet fellow coordinators, and opportunities to share information.

AISI coordinators and project leaders were the primary participants at the workshops. Central office administrators, teachers and school administrators also attended. Table 3.1 summarizes the workshops. The purposes of each workshop varied depending on the needs at a particular point in time. Cycle 1 workshop topics included coordinator roles, project management, measurement, data collection, promising practices, sustainability, professional development, and

annual reporting requirements. Over the three years, 1,622 educators participated in nine workshops offered in 35 locations. Participants consistently rated workshops highly.

Table 3.1: Summary of AISI Workshops During Cycle 1

Year	Topic	Location	Date	Overall Rating*	Number of Participants
Year One	Coordinator's Role and Responsibilities	Calgary Edmonton	Oct. 30, 2000 Nov. 2, 2000	8	217
	Measurement and Data Collection	Edmonton Calgary	March 5, 2001 March 8, 2001	7	301
	Professional Development Strategies	Innisfail Edmonton Grande Prairie Lethbridge Calgary	May 3, 2001 May 9, 2001 May 14, 2001 May 16, 2001 May 17, 2001	9	193
Year Two	Annual Report	Calgary Bonnyville Edmonton Peace River Red Deer Lethbridge	Sept. 13, 2001 Sept. 18, 2001 Sept. 20, 2001 Sept. 24, 2001 Sept. 24, 2001 Sept. 28, 2001	8	243
	AISI Project Sustainability	Edmonton Calgary	April 9, 2002 April 15, 2002	8	106
	Annual Report	Medicine Hat Edmonton Peace River Calgary St. Paul	Sept. 16, 2002 Sept. 23, 2002 Sept. 24, 2002 Sept. 26, 2002 Sept. 30, 2002	8	230
Year Three	Continuous School Improvement	Calgary Edmonton	May 12, 2003 May 16, 2003	8	87
	Promising Practices	Calgary Peace River St. Albert Red Deer Edmonton Lethbridge	May 27, 2003 May 27, 2003 May 28, 2003 June 5, 2003 June 12, 2003 June 13, 2003	8	140
	Final Report	Grande Prairie Edmonton St. Paul Calgary Medicine Hat	Sept. 12, 2003 Sept. 16, 2003 Sept. 17, 2003 Sept. 19, 2003 Sept. 24, 2003	8	105

*Scale of 1 to 10, 10 being highest.

Annual Conferences

Annual conferences provide opportunities for AISI teams to meet and celebrate the success of their projects. The first provincial AISI conference took place November 1-2, 2001 in Edmonton, the second January 30-31, 2003 in Calgary, and the third January 29-30, 2004 in Edmonton. Conference participants included teachers, parents, school and central office administrators, superintendents, trustees, university personnel, and MLAs. The Minister of Learning provided special funding to defray participants' costs to attend the conference. There was no registration fee.

Participants were requested to complete an evaluation of each conference. A detailed report on the three surveys can be obtained from the School Improvement Branch. The survey invited respondents to rate three areas (the program, importance, and overall rating) and to comment on six aspects of the conference: positive and negative features, organization, value of conference, suggestions for future conferences, and general comments. Table 3.2 provides the number of participants and response rate for each evaluation and Table 3.3 summarizes the findings.

Table 3.2: Number of Conference Participants and Response Rate for the Evaluations

Conference	Number of Participants	Number of Respondents	Response Rate %
First	444	150	**34**
Second	750	152	**20**
Third	559	144	**26**

The conferences were very well received. The main purpose was to showcase AISI projects and build capacity for the learning system to effectively implement school improvement through fostering extensive sharing.

Table 3.3: Summary of AISI Conference Evaluations

Conference	Session	Importance %	Rating %	Representative Comments
First	Showcase Sessions	**87**	**95**	*I truly appreciated the opportunity to see and hear from other teachers who are making their projects work. Their successes and failures help act as a guide for anything we might attempt.*
	Poster Presentations	**75**	**98**	*The energy, excitement and pride everyone displayed regarding their projects.*
	Keynote Address	**75**	**94**	*Dr. Levin, the mingling, the ideas, some very impressive projects. It gives hope.*
	Information Sessions	**74**	**93**	*I really enjoyed the information sessions. I found them very practical. I wish I could have attended more than one.*
Second	Showcase Sessions	**73**	**80**	*The conference enabled me to look beyond the project and see and understand the big picture. I learned so much about myself, about AISI, and how important all of us are in learning. Thank you.*
	Poster Presentations	**63**	**83**	*It was a wonderful boost for our team. Gave us time to reflect, compare and learn – where WE need to go.*
	Keynote Address	**49**	**70**	*As a parent, I now understand how much our teachers do and how much they give to our children.*
	Focus Sessions	**67**	**69**	*The days flowed – we were allowed to think, reflect and celebrate!*
Third	Showcase Sessions	**90**	**97**	*I appreciated the practical and positive focus of the showcase presentations.*
	Keynote Address	**83**	**98**	*The speakers were specific to our journey in AISI Dr. Berliner really spoke to the heart and had a clear understanding of our AISI conference.*
	Focus Sessions	**90**	**94**	*Need more teachers who are actually using or implementing some of these AISI projects speaking at focus sessions.*

* **Importance**: % choosing 'quite and very important'; **Rating**: % choosing 'good, very good, and excellent'.

Local Consultation

After AISI's first year of implementation, the requirement for spring Interim Progress Reports for ongoing projects was replaced with school authority consultations in 2001 and 2002. These local consultations were important for supporting the successful implementation of AISI projects and provided opportunities for:

1. Hands-on assistance, sharing current information, and discussion of current issues.
2. Reviewing project progress (e.g., comparing actual performance with established targets) and monitoring the actual against budgeted expenditures.
3. Building collaboration, enhancing trust, and strengthening the relationships between SIB and local AISI coordinators and staff.

The AISI Clearinghouse

Sharing project findings both within and among schools and school authorities is a key component in achieving the goal of sustainable improvement. The public Clearinghouse on the Internet facilitates sharing among educators and others who have access to the worldwide web.

The primary purpose of the public AISI Clearinghouse is to share what is learned through AISI projects individually and collectively to support improved student learning and to sustain school improvement. The Clearinghouse serves the needs of multiple audiences. It is essentially a communications vehicle that can further discussion among educators and the public on school improvement. Making use of the latest electronic technology, it permits viewers to access and retrieve information and links to related materials. In addition to facilitating "teachers talking to teachers" about their experiences with school improvement, the Clearinghouse can inform education policy and decision makers at the local school, school authority, and provincial levels. It also provides a database for educational researchers and analysts.

The Clearinghouse includes the AISI project proposals, reports, products, tools, and promising practices. It provides different levels of detail from a high-level synthesis of projects by user-selected categories to synopses of projects and rich descriptions of outcomes, practices and teacher insights. Access and retrieval to and from the Clearinghouse is based upon a hierarchical model (generalized/synthesized to specific details) with multiple linkages accessed using a drill-down approach.

The Clearinghouse is dynamic (continuous updating) and interactive (through extensive navigational capabilities). With the continuing collaboration of the AISI partners, it has become model of collective learning and wisdom in the pursuit of improving the education of Alberta's students.

The Clearinghouse has three components:

1. ***Website and Synthesis*** – This component has two major parts: a way to access different types of information in the other parts of the Clearinghouse, and high-level syntheses of what has been learned through AISI projects.

2. ***Approved AISI Projects*** – This component consists of the project plan and annual reports of approved AISI projects and a brief synopsis of each project.

3. ***Rich Description*** – Rich description refers to documentation that helps to explain successes and failures of projects. This optional component includes products, tools and promising practices that encompass broad, subjective, and in many cases, anecdotal information on instructional strategies and teachers' insights. To date, approximately 60 promising practices have been posted, relating primarily to professional development and instructional strategies, with a smaller number for project management and involving parents.

The Clearinghouse is a work in progress. Province-wide implementation of SuperNet will reduce the time lag for remote school authorities whose technological capabilities need enhancement. As well, technical development is under way to refine the searching and retrieval capacities of the system. Finally, as AISI teams become more confident about sharing their practices with others, they will take the time to document their experiences.

University Assistance

Since the inception of AISI, the four Faculties of Education (Faculty of Education and Faculté Saint-Jean at the University of Alberta, University of Calgary, and University of Lethbridge) have received funding to assist school authorities with their projects. AISI partners provided a million dollars to the four faculties to enable university staff to provide assistance to AISI project coordinators in developing and implementing their projects. Specific services included advice and expertise in using literature and research on school improvement and specific themes (e.g., early intervention, curriculum, numeracy, literacy), and data collection and analysis (e.g., measures, targets). Project teams accessed these services free of charge.

Some project teams made extensive use of the university AISI services in their region while others did not. Those who availed themselves of the service often involved the university staff in their actual teamwork. Other project teams chose to engage experts outside of Alberta to assist them with their work, in which case the jurisdiction itself paid for these services out of their AISI funds.

4 Outcomes

This chapter presents the results during the first cycle of AISI. It includes sections on measurement tools, project effects, magnitude of project effects, analysis of provincial achievement tests, descriptions of quality, and observations by participants and superintendents.

Measurement Tools

Evidence-based practice dictated that AISI projects have an appropriate balance of quantitative and qualitative measures. Most projects that used quantitative measures used provincial achievement tests and diploma examinations as indicators of success. These tests have the advantages of long-term use by teachers and extant analyses and reporting, which means school staff do not need to expend resources in test development, analysis and reporting. However, these tests and exams cover only four grades (3, 6, 9 and 12), so projects that include students in other grades needed to find other measures. In addition to the provincial tests and exams, school authorities used more than 40 different commercially available standardized assessment instruments (e.g., Canadian Tests of Basic Skills, Gates-MacGinite Reading Tests, Schonell Tests, Brigance Tests) to measure student learning.

Many projects had affective and behavioral goals. As such projects did not lend themselves to standardized assessment, project teams had to develop or adapt local measures that required analysis and interpretation in order to report results. Because these measures generate numeric data, it is possible to summarize findings over projects with similar themes and/or strategies.

Table 4.1 presents the number and type of measures used to determine AISI outcomes. In total, 4,330 measures were used. The largest number of measures related to student achievement (57.7%) including provincial achievement tests, locally developed tests/assessments, and diploma examinations. Student, parent, and teacher satisfaction accounted for 28.7% of the measures. A further 7% of the measures related to program implementation.

Table 4.1: Number and Types of Measures Used to Determine AISI Outcomes

Type of Measure	Number of Measures	% of Measures
Student Achievement Measures		
Provincial Achievement Tests	1,183	27.3
Locally Developed Tests/Assessments	1,165	26.9
Diploma Examinations	153	3.5
Qualititative/Other Measures		
Student Satisfaction	457	10.6
Parent Satisfaction	402	9.3
Teacher/Staff Satisfaction	381	8.8
Program Implementation Measures	305	7.0
Student Behavior	162	3.7
Teacher Growth (Knowledge/Skills/Attitudes)	122	2.8
Total	**4,330**	**99.9**

Narrative approaches documenting evidence of success allowed project coordinators to describe what happened and then rate how well they achieved their intent. These descriptions of quality included comments, observations, and suggestions. Table 4.2 presents the distribution, number and percentage of descriptions of quality measures. Almost six in ten (57.1%) of the 473 projects that used this narrative approach included at least one such measure. Nine projects (1.9%) included six or more descriptions of quality.

Table 4.2: Distribution of Descriptions of Quality Measures

Number of Measures	Number of Projects	% of Projects
1	270	57.1
2	90	19.0
3	64	13.5
4	26	5.5
5	14	3.0
6	4	0.9
7	2	0.4
8	1	0.2
9	1	0.2
11	1	0.2
Total	**473**	**100.0**

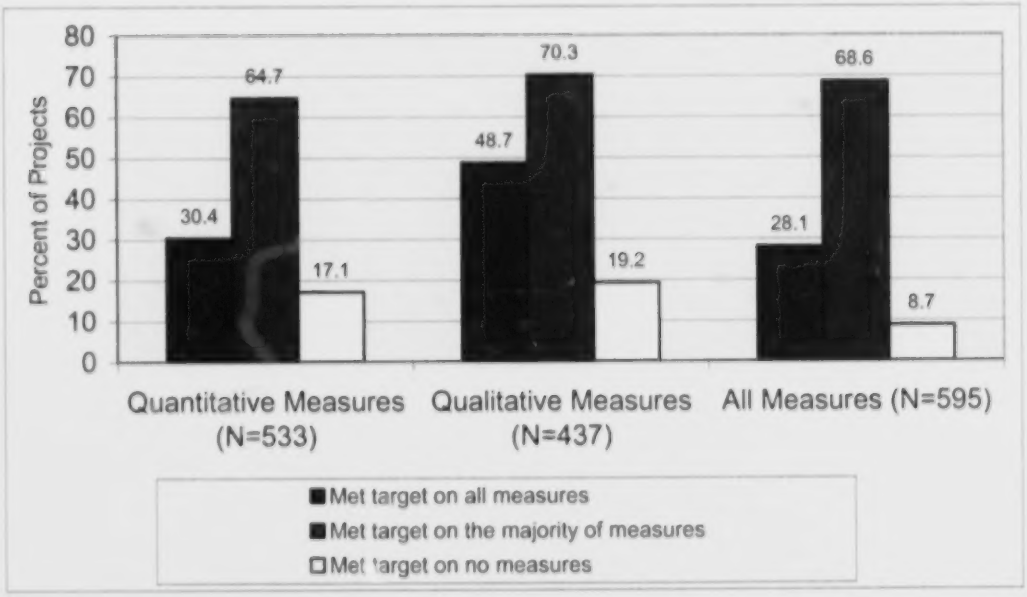
Project Effects

All projects required a baseline and improvement target for each measure, except for the descriptions of quality discussed above. The baseline represents student performance prior to the intervention. Project coordinators were advised to use three-year averages as the baseline if using a provincial achievement test or diploma exam. In the absence of past performance data for a new measure, first-year results could be used as the baseline. As well, project teams were advised to set realistic improvement targets for each year.

Achieving Targets in 2003

Figure 4.1 presents the percentage of projects that met their third-year targets on quantitative, qualitative, and all measures combined. Approximately two thirds of all projects met targets on the majority of measures (that is, 50% or more of the measures used). Almost half of the projects (48.7%) met targets on all qualitative measures (that is, satisfaction, attitudes, behavior, and other program implementation measures). Approximately 30% of the projects met their targets on all quantitative measures, which are essentially measures of student learning. Less than 20% of projects did not meet third-year targets on any measure. When all measures are combined, 8.7% of projects did not meet any target that was set. Some projects did not meet their targets because they were set too high, however, most of these projects showed improvement over their baseline.

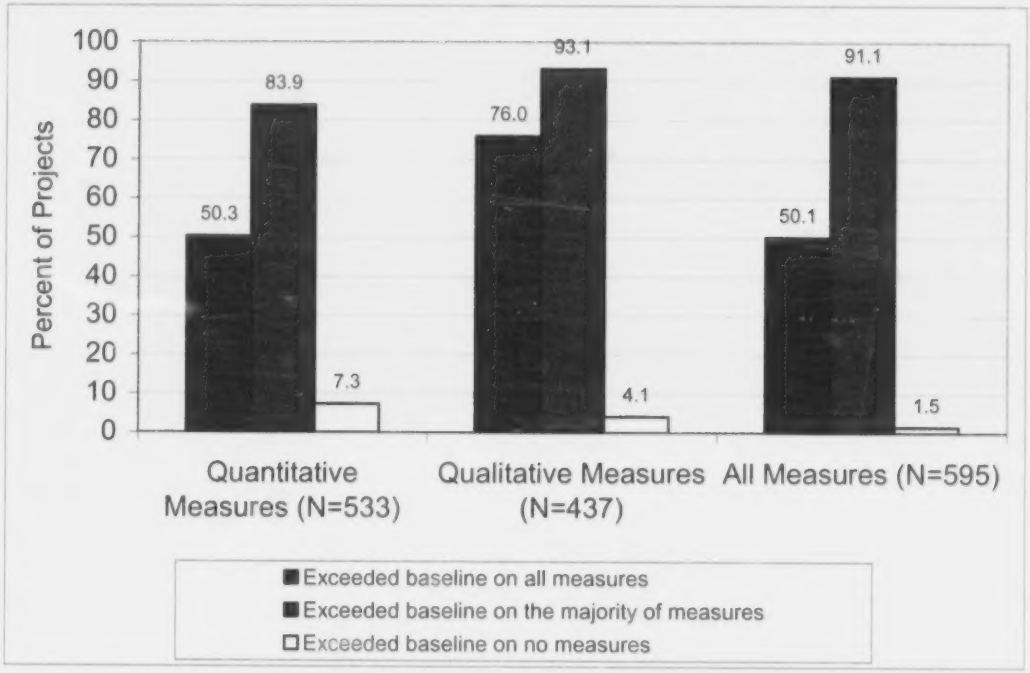
Figure 4.1: Percentage of Projects Meeting Third-Year Targets in 2003



Improvement Over Baseline in 2003

Figure 4.2 presents the percentage of projects that exceeded their baseline in 2003. A high percentage of projects exceeded their baseline on the majority of measures in the third year of AISI: 83.9% on quantitative measures, 93.1% on qualitative measures, and 91.1% on all measures combined. Seven percent of projects did not exceed their baseline on any measure of student learning; 4.1% of projects did not exceed their baseline on measures of satisfaction and other perceptions. When all measures are combined, only 1.5% of the projects did not improve over the baseline.

Figure 4.2: Percentage of Projects Improving Over the Baseline in 2003



Annual Performance

School authorities reported performance relative to how well projects met annual targets and improved over the baseline. Figure 4.3 presents the percentage of all projects that met their targets on all measures (quantitative and qualitative) for each of the three years. A decline of 7% from the first to the second year and 5% from the second to third year of the project took place in the percentage of projects meeting their annual targets on the majority of measures. During the first year, four in ten projects met their targets on all measures, while during the second and third years about three in ten projects did so. In all three years, less than one in ten projects did not meet their targets on any measure.

Figure 4.4 presents the percentage of all projects that exceeded their baseline on all measures. More than 90% of all projects exceeded their baseline on the majority of measures every year. Almost six in ten projects exceeded their baseline on all measures in 2001; this decreased to half the projects in 2002 and 2003.

Figure 4.3: Percentage of Projects Meeting Annual Targets (All School Authorities)

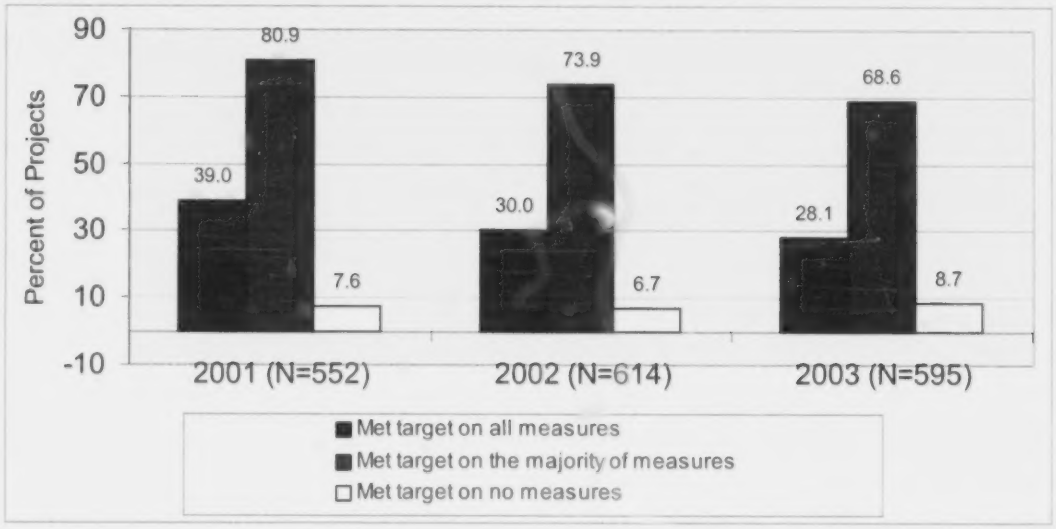
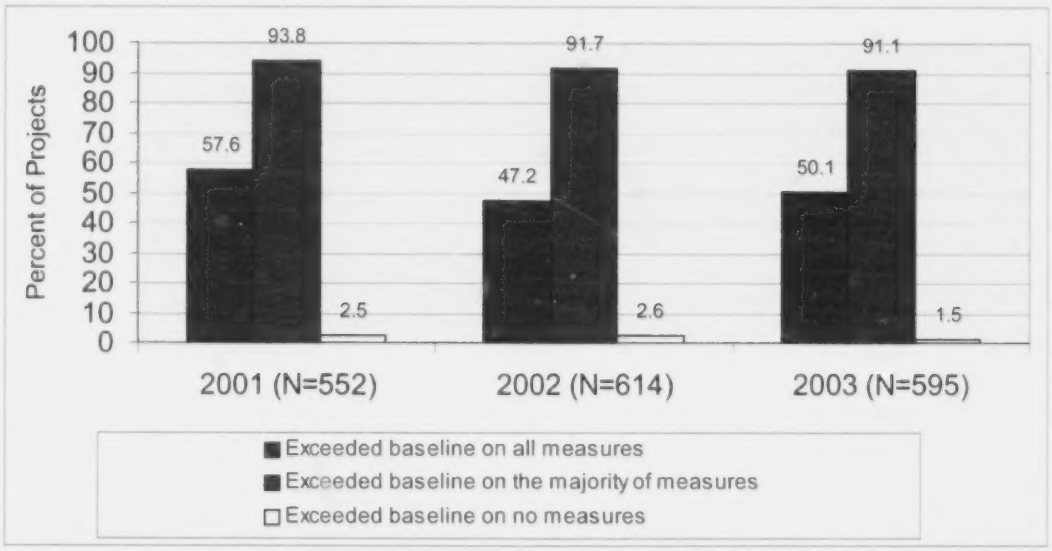


Figure 4.4: Percentage of Projects Improving Over the Baseline (All School Authorities)



Magnitude of Project Effects

The preceding figures indicate the percentage of projects that met or exceeded their baselines and targets, but do not tell us the magnitude of the improvement. To determine the extent to which AISI projects improved over the baseline, all data (baseline and results) were converted to a common scale (standard score) that permits comparison of improvement regardless of the type of measure (test, survey, etc.) that the school authorities used. An effect size expresses the increase or decrease in standard deviation units.

Effect Sizes
An effect size of 1.0 indicates an increase of one standard deviation, typically associated with advancing children's achievement by one year, improving the rate of learning by 50%, or a correlation between some variable and achievement of approximately 0.50 (Hattie, 1992, pp. 5-6).

For each measure, the baseline and annual result were converted to standardized (z) scores with a mean of zero and a standard deviation of 1. The effect size for each measure was determined by the difference between the z scores for the baseline and the actual annual results and then averaged over the measures for each project and weighted by the number of students involved in each measure. These average effect sizes were grouped into four categories: no effect[11] (less than 0 or not significant), minimal (.01 to less than less than 0.2), small (0.2 – 0.3), medium (0.4 to 0.7), and large (0.8 or higher). See Appendix C for further elaboration.

Three-Year Average Effects

Table 4.3 presents the three-year average project effect sizes for all public and private school authorities. For the 532 projects that included measures of student learning, 26.6% of the projects demonstrated moderate or large effects (0.40 and higher). For the 542 projects that included qualitative measures, 42.6% demonstrated such effects. When all measures for all projects are combined, 56.2% of the 680 projects demonstrated small, medium or large effects. Minimal effects were found in about a quarter of the projects when all measures are included, and about one in five had no significant effect. Figure 4.5 displays these results.

Even though one in five projects had no significant effect, they were not necessarily unsuccessful. Thirty-nine percent of these projects had positive effects ranging from small to large that were not statistically significant at the 95% confidence interval because most of these projects targeted small numbers of students so a relatively small number of students was tested. Moreover, 67% of the projects with no significant effects met more than 50% of their targets. Only 6% of all projects with numeric results showed no significant effect and met less than half of their targets. These projects were located throughout Alberta. In spite of the low effect sizes, most project participants reported that they considered their projects to be successful. They were, however, aware of weaknesses that are summarized on the next page.

[11] No effect includes all negative effect sizes and all positive effect sizes that are not statistically significant.

- ***Design of projects*** including overly ambitious or unrealistic targets and measures that were not sensitive enough to capture intended student outcomes.
- ***Data collection problems*** including low response rate on student surveys and surveying all parents rather than only those whose children were in the project.
- ***Environmental factors*** such as poor student attendance, low student motivation, and influence of new students entering the project.
- ***Other goals achieved*** that were not captured in the measures such as improved student attitudes and self-confidence, and improved student achievement.

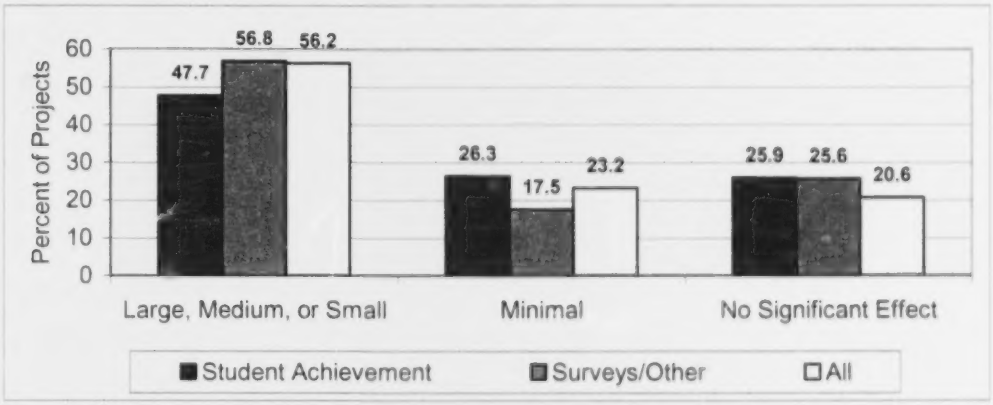
These inconsistencies between numeric and narrative findings point to the need to include both quantitative and qualitative data in interpreting project results. This preliminary analysis of the projects that numerically at least were unsuccessful also raises the need to conduct more in-depth analysis of individual projects to fully understand the implications of the findings.

Table 4.3: Three-Year Average Project Effects in All School Authorities

Effect Size*	Student Achievement		Surveys/Other		All Measures	
	Number of Projects	%	Number of Projects	%	Number of Projects	%
Large	46	**8.6**	121	**22.3**	91	**13.4**
Medium	96	**18.0**	110	**20.3**	163	**24.0**
Small	112	**21.1**	77	**14.2**	128	**18.8**
Minimal	140	**26.3**	95	**17.5**	158	**23.2**
No Effect	138	**25.9**	139	**25.6**	140	**20.6**
Total	**532**	**99.9**	**542**	**99.9**	**680**	**100.0**

*large = 0.8+, medium = 0.4 - 0.7, small = 0.2 - 0.3, minimal = < 0.2, no effect = negative or positive but not statistically significant.

Figure 4.5: Three-Year Average Project Effects in All School Authorities



Annual Effects

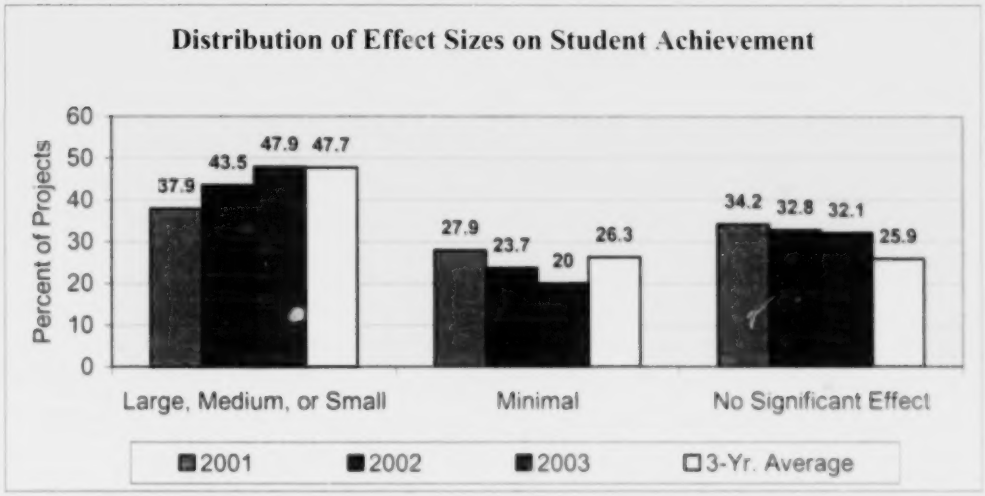
Table 4.4 and Figure 4.6 present the effects on student achievement, surveys and other qualititative measures, and all measures combined for each year as well as the three-year average (2001 to 2003). There was a slight increase in the percentage of projects demonstrating small, medium or large effects on all measures over each of the three years (45.2%, 51.8%, and 57.9% respectively). Over all three years, 56.2% of the projects demonstrated improvement.

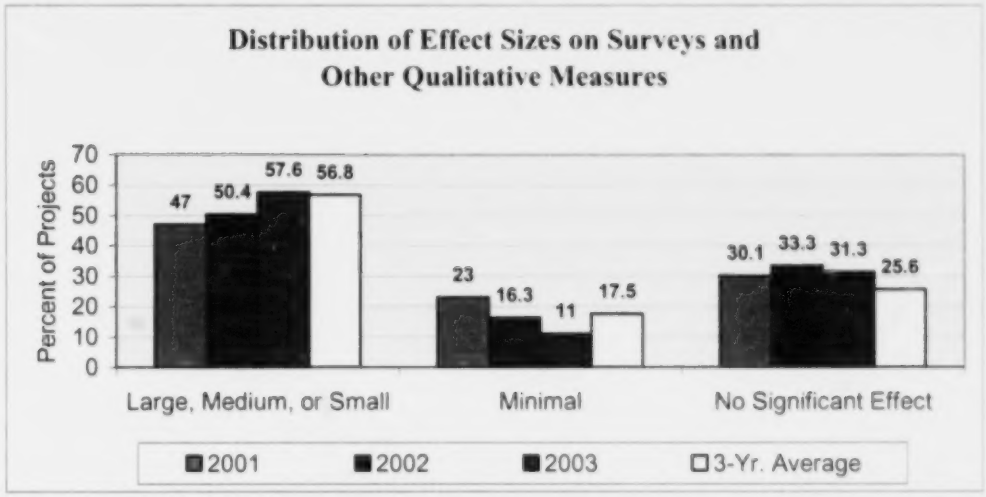
Table 4.4: Annual Project Effects on Student Achievement, Surveys and All Measures

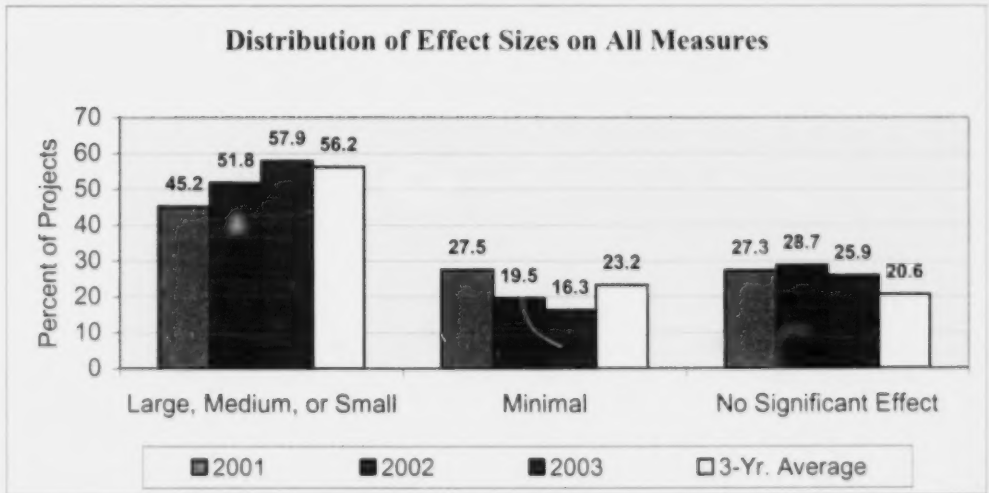
	2001		2002		2003		3-Year Average	
Effect Size*	Number of Projects	%	Number of Projects	%	Number of Projects	%	Number of Projects	%
Student Achievement								
Large	31	7.8	61	13.0	61	13.2	46	8.6
Medium	57	14.3	76	16.2	82	17.8	96	18.0
Small	63	15.8	67	14.3	78	16.9	112	21.1
Minimal	111	27.9	111	23.7	92	20.0	140	26.3
No Effect	136	34.2	154	32.8	148	32.1	138	25.9
Total	**398**	**100.0**	**469**	**100.0**	**461**	**100.0**	**532**	**99.9**
Surveys/Other								
Large	74	20.2	103	22.1	134	29.6	121	22.3
Medium	59	16.1	85	18.2	92	20.3	110	20.3
Small	39	10.7	47	10.1	35	7.7	77	14.2
Minimal	84	23.0	76	16.3	50	11.0	95	17.5
No Effect	110	30.1	155	33.3	142	31.3	139	25.6
Total	**366**	**100.1**	**466**	**100.0**	**453**	**99.9**	**542**	**99.9**
All Measures								
Large	70	12.9	93	15.6	119	20.4	91	13.4
Medium	93	17.2	117	19.7	127	21.7	163	24.0
Small	82	15.1	98	16.5	92	15.8	128	18.8
Minimal	149	27.5	116	19.5	95	16.3	158	23.2
No Effect	148	27.3	171	28.7	151	25.9	140	20.6
Total	**542**	**100.0**	**595**	**100.0**	**584**	**100.1**	**680**	**100.0**

*large = 0.8+, medium = 0.4 - 0.7, small = 0.2 - 0.3, minimal = < 0.2, no effect = negative or positive but not statistically significant.

Figure 4.6: Annual Project Effects on Student Achievement, Surveys and All Measures







Average Annual Effects

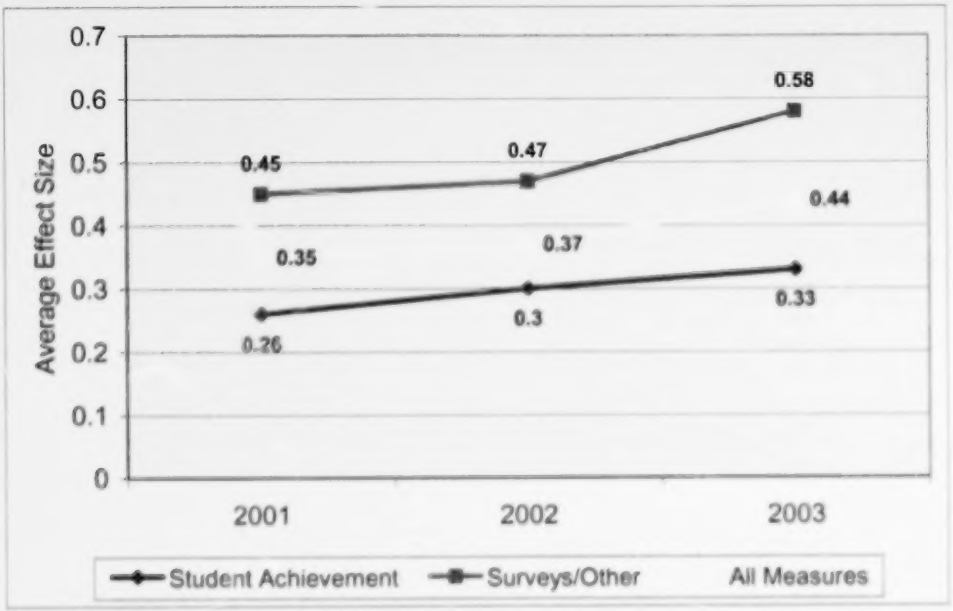
Table 4.5 and Figure 4.7 present the average effect sizes for each year as well as the three-average for Cycle 1. For all types of measures, there was a gradual increase from the first to the third year of AISI. The largest effect was found for qualitative measures, that is, participants' satisfaction with the projects.

Table 4.5: Descriptive Statistics on Average Effect Sizes for Cycle 1 of AISI

Measures	Average Effect Size	Standard Deviation	Range		Number of Projects
			Minimum	Maximum	
Student Achievement*					
3-Year Average	**0.26**	**0.45**	**-1.93**	**3.17**	**532**
2001	0.26	0.44	-0.84	3.53	398
2002	0.30	0.55	-2.41	3.93	469
2003	0.33	0.57	-2.14	3.17	461
Surveys/Other**					
3-Year Average	**0.44**	**0.60**	**-1.81**	**3.09**	**542**
2001	0.45	0.56	-1.03	3.09	366
2002	0.47	0.71	-2.25	3.76	466
2003	0.58	0.73	-1.13	3.64	453
All Measures					
3-Year Average	**0.35**	**0.46**	**-1.52**	**3.09**	**680**
2001	0.35	0.45	-1.03	3.09	542
2002	0.37	0.54	-2.41	3.76	595
2003	0.44	0.56	-1.26	3.09	584

*Includes provincial achievement tests and exams, standardized tests, and locally developed tests.
**Includes satisfaction surveys, observation/checklists, program implementation measures.

Figure 4.7: Average Annual Effects of AISI Cycle 1



Effects by Project Classification

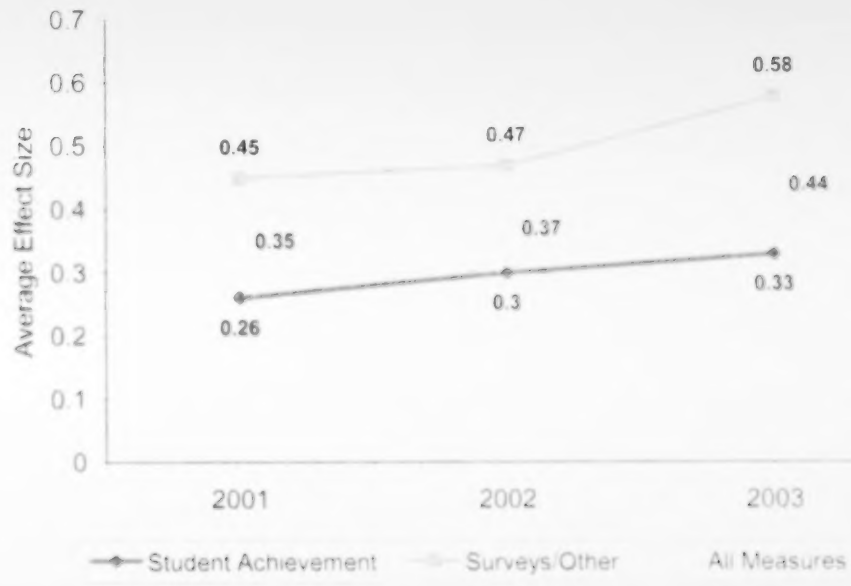
Meta-Analysis

The process of synthesizing the results of different studies into a single effect size estimate is called **meta-analysis**. This procedure was used to combine the results of several projects to determine the effect sizes for various types of project foci and strategies. Most of the AISI projects have multiple foci and strategies so it was difficult to place them in unique categories. However, an attempt was made to identify projects with a major focus on one of the most common categories to determine the combined effects. As a result the number of projects in some categories are quite small but each analysis contains at least 10 projects. A combination of project category, key word search and professional judgment was used to identify various projects that fit under various categories (e.g. at-risk, early literacy, transition, small class size, etc). The combined effect sizes for the various project categories were calculated with a computer program for research synthesis called Comprehensive Meta Analysis (Borenstein & Rothstein, 1999).

Limitations

Project results are self-reported and assumed accurate and valid as attested to by the superintendent. Potential limitations to interpretation of results include variation in student population characteristics, individual implementation of instructional strategies, school contexts, and project design including selection and/or changes to targets and measures.

Figure 4.7: Average Annual Effects of AISI Cycle 1



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Effect size analysis is useful in determining the impact of AISI on the major types of projects, for example, literacy, mathematics, technology, etc., and to identify practices that contributed to achieving those results. An exploratory analysis was conducted to assess the relative impact of AISI by common groups of projects.

The following analysis for groups of students, curricular areas, themes, and instructional strategies is based on projects that had a major focus in each area. This series of figures includes confidence intervals (↔) to note the variation that can be expected around the reported result. For example, the effect on achievement for students at risk is 0.30, with the 'whiskers' extending from 0.20 to 0.40. This means that 95% of the time the results for students at risk would be expected to be between 0.20 and 0.40.

Figure 4.8 presents the three-year average effects for selected **groups of students**: at risk, mild/moderate special needs, regular, and gifted. Students who are at risk and with mild/moderate needs enjoyed a greater advantage (0.30 and 0.28 respectively) than those in regular (0.23) or gifted (0.10) programs. The largest effects were found on qualitative measures (ranging from 0.53 to 0.26) for all groups. Projects that targeted all groups of students except the gifted demonstrated moderate effects on satisfaction as measured by surveys of students, parents, and teachers.

Figure 4.8: Three-Year Average Effects for Selected Groups of Students

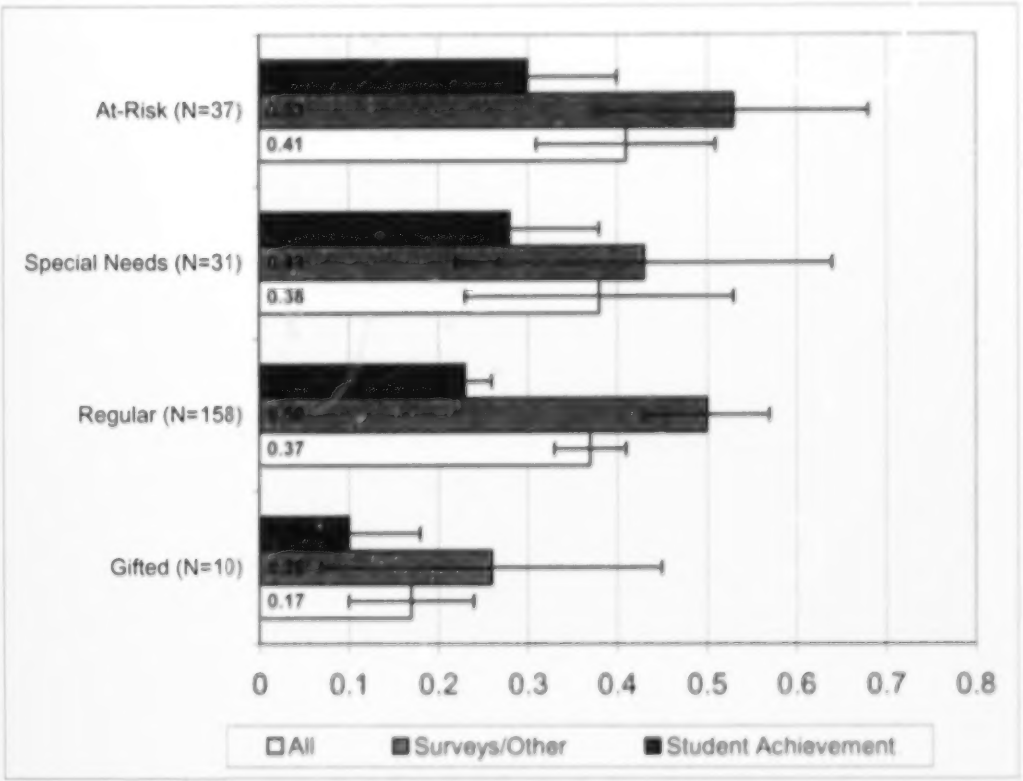
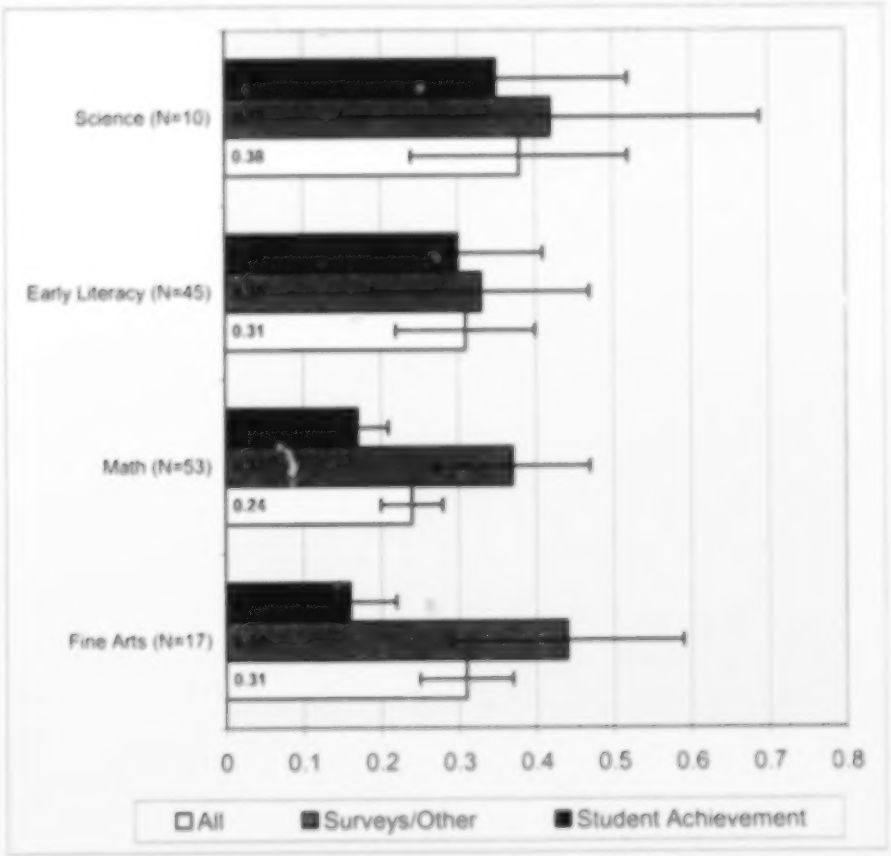


Figure 4.9 presents the three-year average effects of selected **curricular areas**. Science projects demonstrated the largest effects (0.35) on student learning, followed by early literacy (0.30). A smaller positive impact was found for mathematics (0.17) and fine arts (0.16). There was a stronger effect on satisfaction (qualitative measures) than student achievement (quantitative measures) in all areas.

Figure 4.9: Three-Year Average Effects of Selected Curricular Areas



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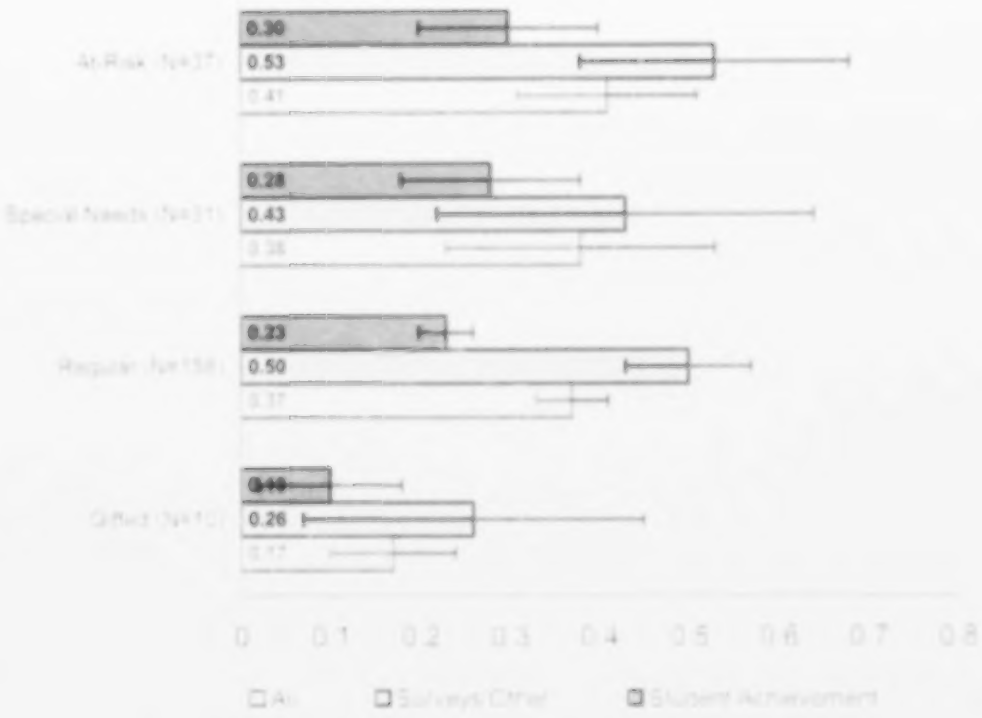

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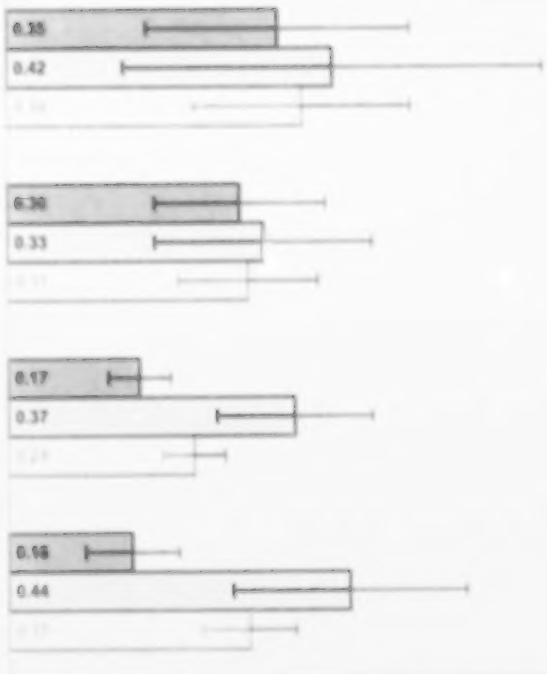


Figure 4.10 presents the three-year average effects of selected **themes**. Projects that focused on early intervention (0.43) had the largest effects on student learning. Projects that focused on transitions to high school (0.34) and high school completion (0.31) also demonstrated positive, albeit smaller, effects. All themes had moderate effects on satisfaction (0.41 to 0.50), except early intervention (0.33), which is the only area in which the impact on student achievement exceeded satisfaction.

Figure 4.10: Three-Year Average Effects of Selected Themes

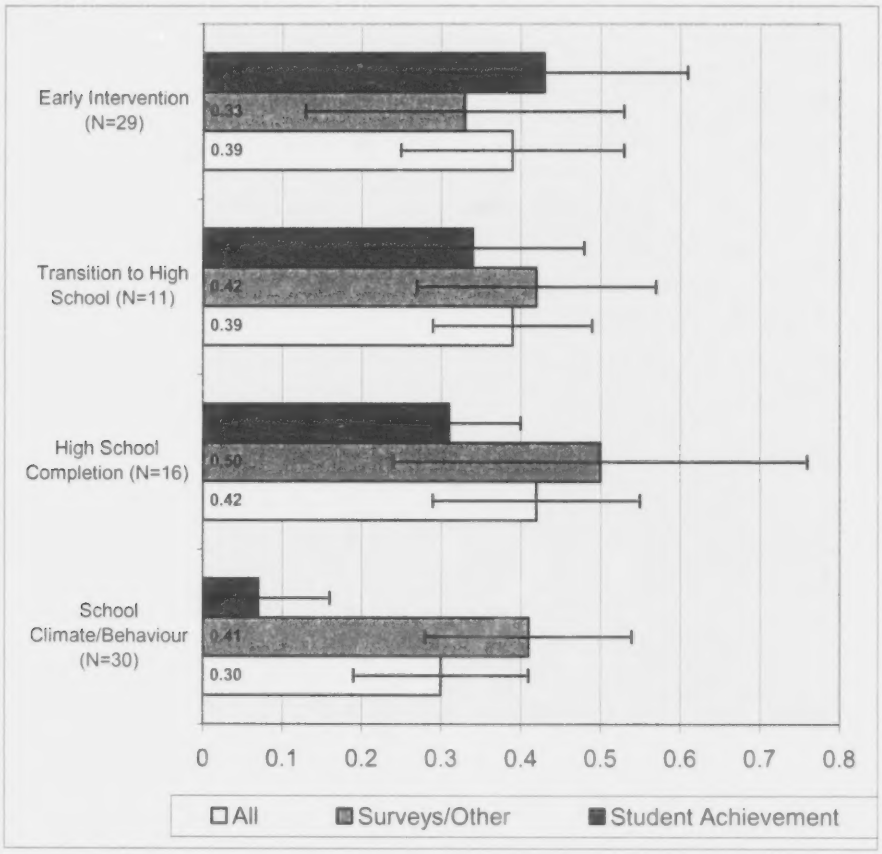
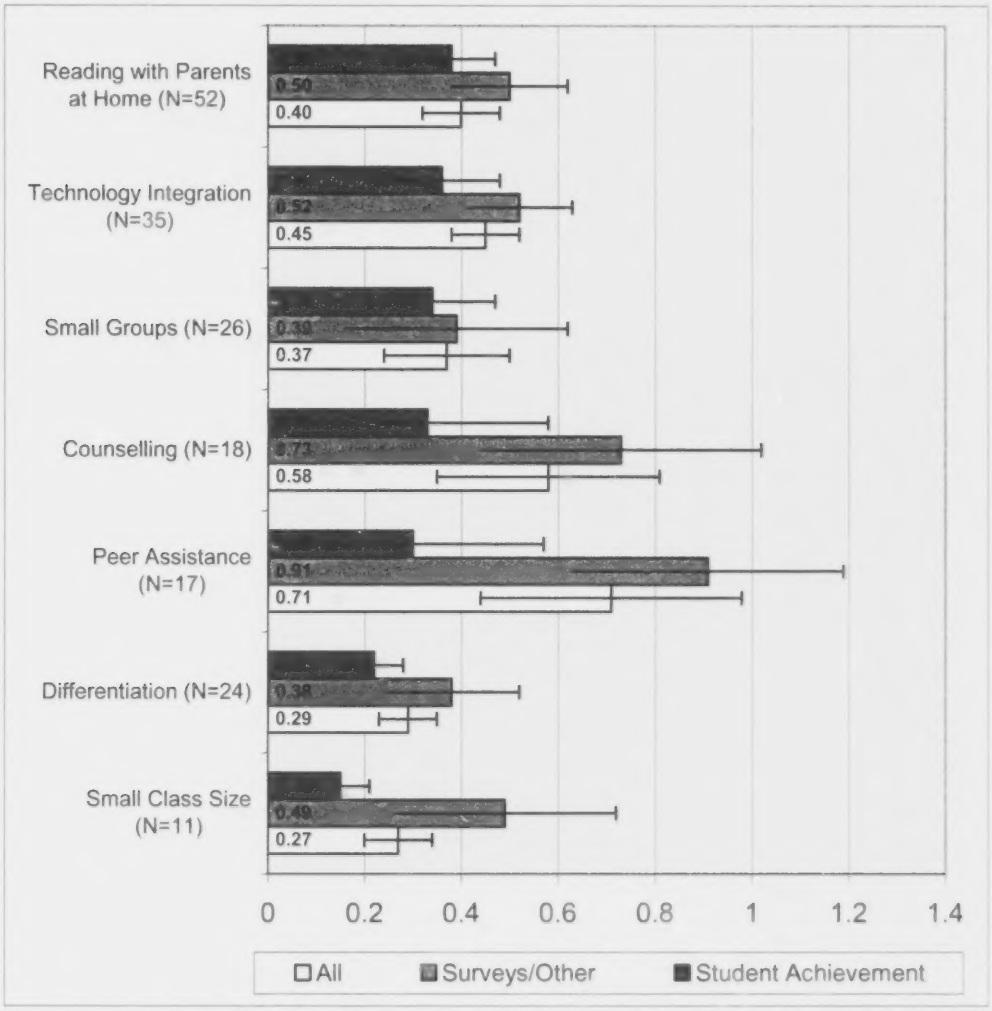


Figure 4.11 presents the average effects of selected instructional strategies. Moderate effects (0.38) on student achievement were found for parents reading at home with their children. Small effects on learning were found for technology integration (0.36), small groups (0.34), counselling (0.33), peer assistance (0.30) and differentiation (0.22). As noted for student groups, curricular areas and themes, the impact was greater on satisfaction than on learning, with moderate effects for all strategies (0.38 to 0. 73), except peer assistance, which had a large effect (0.91) on satisfaction.

Figure 4.11: Three-Year Average Effects of Selected Instructional Strategies



Over all categories, project effects on student learning were modest (around 0.30) with the exception of early intervention, which demonstrated a moderate gain (0.43). For almost all categories, participants showed improved perceptions (measured by satisfaction surveys) in the moderate range (around 0.40). Table 4.6 summarizes the project effects.

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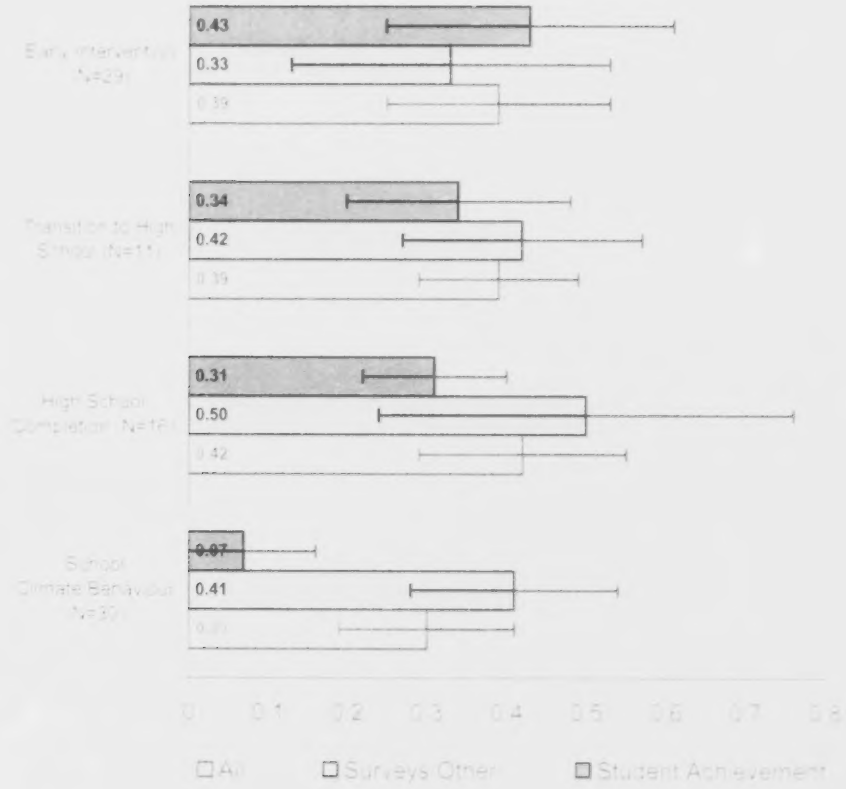

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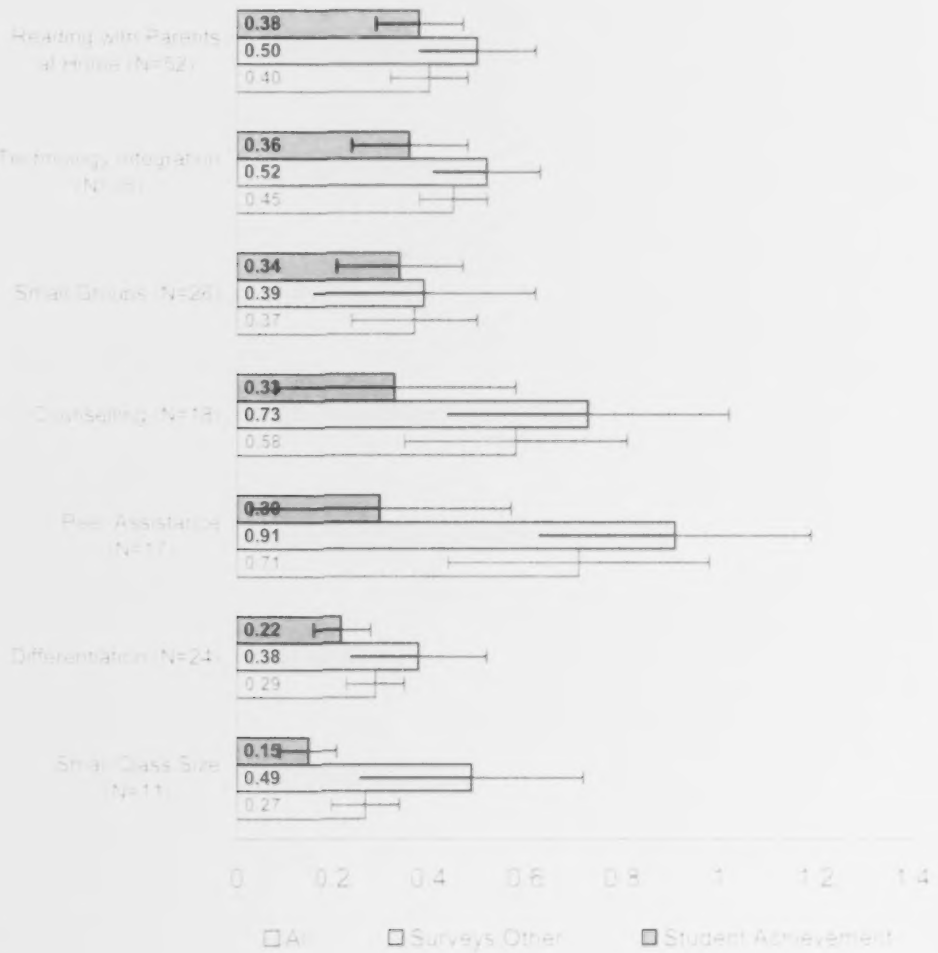

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Table 4.6: Summary of AISI Effects on Student Achievement and Satisfaction

Effect Size*	Student Groups	Selected Subjects	Selected Themes	Instructional Strategies
Student Achievement				
Medium (0.4-0.7)		• Science	• Early intervention	• Reading with parents at home • Technology integration
Small (0.2-0.3)	• At risk • Special needs • Regular	• Early literacy • Math • Fine arts	• Transition to high school • High school completion	• Small groups • Counselling • Peer assistance • Differentiation • Small class size
Minimal (Less than 0.2)	• Gifted		• School climate behavior	
Satisfaction (Students, Parents, Teachers)				
Large (0.8 +)				• Peer assistance
Medium (0.4-0.7)	• At risk • Regular • Special needs	• Fine arts • Science • Math	• High school Completion • Transition to high school • School climate/ behavior	• Counselling • Technology integration • Reading with parents at home • Small class size • Differentiation • Small groups
Small (0.2-0.3)	• Gifted	• Early literacy	• Early intervention	
Minimal (Less than 0.2)				

- Effect sizes of 0.2 correspond to gains of about 8 percentile points, 0.4 of about 16 percentile points, and 0.7 of about 26 percentile points.

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Minimal (Less than 0.2)	• Gifted		• School climate/ behavior	
Satisfaction (Students, Parents, Teachers)				
Large (0.8 +)				• **Peer assistance**
Medium (0.4-0.7)	• At risk • Regular • Special needs	• Fine arts • Science • Math	• High school Completion • Transition to high school • School climate/ behavior	• Counselling • Technology integration • Reading with parents at home • Small class size • Differentiation • Small groups
Small (0.2-0.3)	• Gifted	• Early literacy	• Early intervention	
Minimal (Less than 0.2)				

- Effect sizes of 0.2 correspond to gains of about 8 percentile points, 0.4 of about 16 percentile points, and 0.7 of about 26 percentile points.

Provincial Achievement Tests

Another way to explore the impact of AISI is to analyze changes in student achievement as measured by provincial achievement tests. Since all students in grades 3, 6, and 9 must write the provincial achievement tests, these tests can serve as a common measure across all projects. Given the widespread focus on literacy and numeracy, the English language arts and mathematics tests may be used to analyze the impact of participation in such AISI projects. Appendix D presents the results for participation in and achievement on the provincial achievement tests from 1998 to 2003.

Results are presented for two groups according to whether or not students participated in an AISI literacy and/or numeracy project.

1. **AISI Students** – Students in schools that participated in a literacy/language arts project or a numeracy/mathematics project at grades 3, 6 and 9.
2. **Non-AISI Students** – Students in schools that **did not** participate in a literacy/language arts project or a numeracy/ mathematics project at grades 3, 6, or 9.

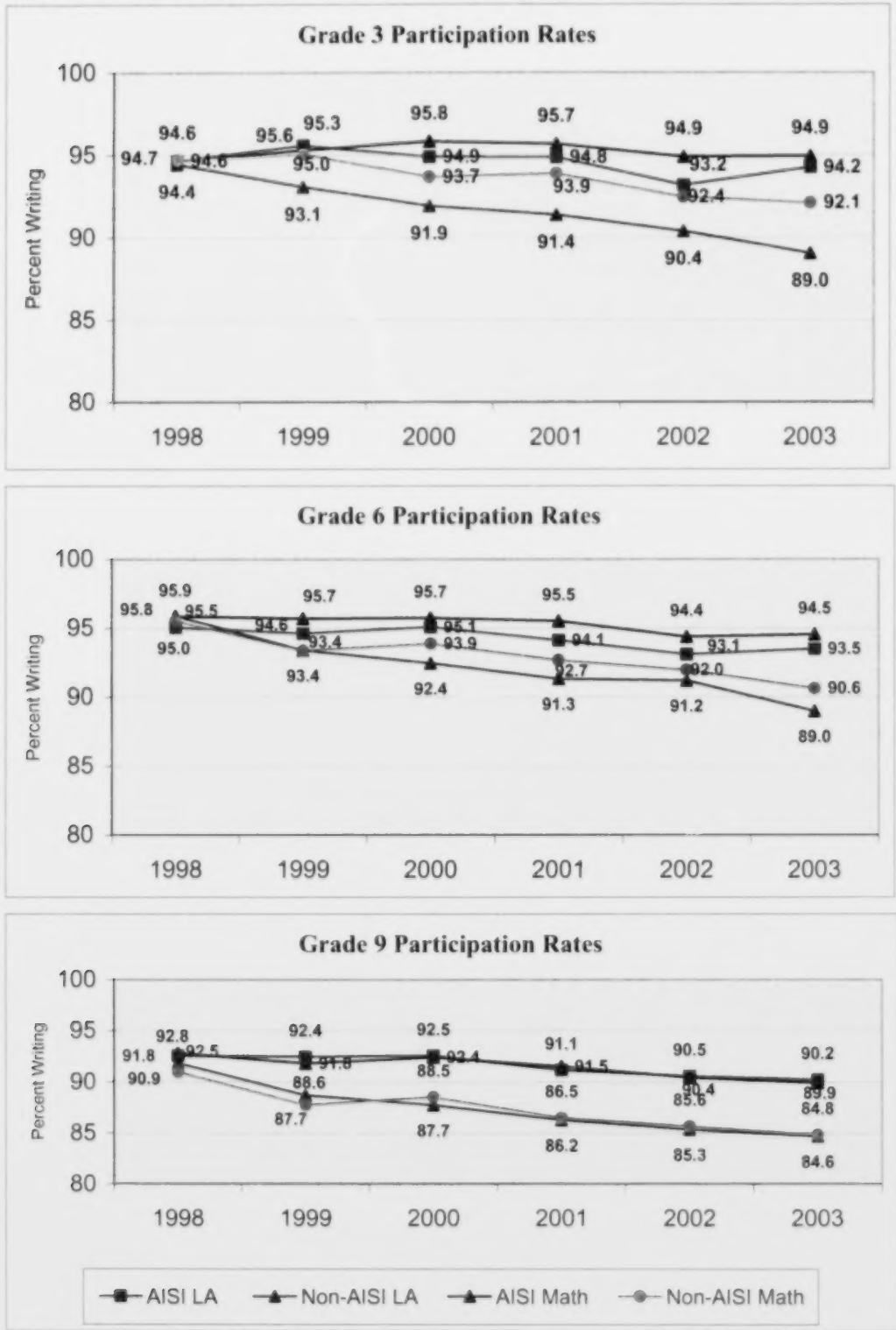
Participation Rates

Figure 4.12 presents the participation rates in provincial achievement tests of AISI and non-AISI students from 1998 to 2003. In both English language arts and mathematics at all three grade levels, the participation of AISI students was higher than non-AISI students as defined above and the gap between AISI and non-AISI widened over time. Except for grade 3 AISI students, participation gradually declined from 1998 to 2003 and from grade 3 to grade 9.

In grade 3 more than 94% of AISI students participated in the tests, with a slight decrease in grade 6. There was a slight increase in participation from 2002 to 2003 in grades 3 and 6. By grade 9, AISI participation had declined to 90%.

Fewer non-AISI students participated in the provincial achievement tests with rates slightly higher for mathematics than language arts. By grade 9, 85% of non-AISI students were writing the provincial achievement tests in language arts and mathematics.

Figure 4.12: Percentage of Students Participating in Provincial Achievement Tests



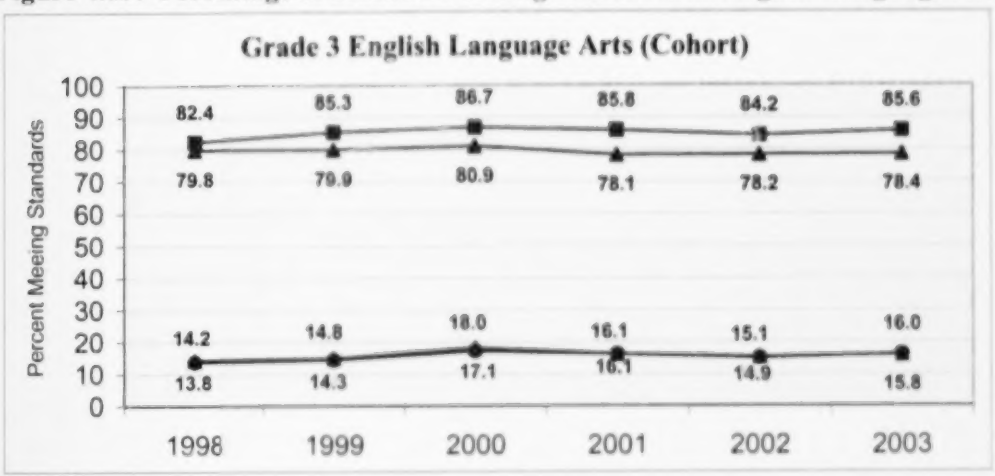
Cohort Achievement

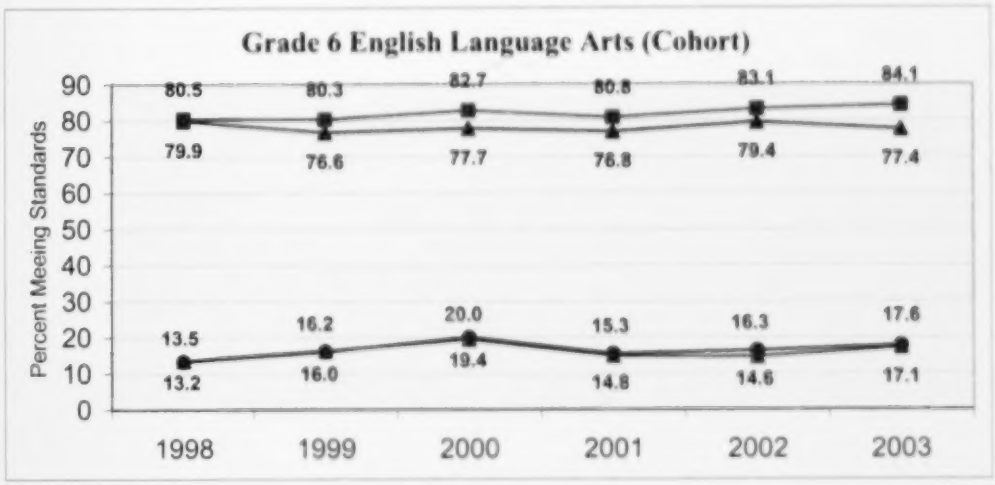
Achievement results are presented for the cohort, which presents results for all students in the grade, both writers and non-writers. The cohort essentially assumes that those who did not write would have received a score of zero. If a school has a high participation rate of students writing the test, achievement results for the cohort group would be similar to those of students writing. As the participation rate decreases, so do cohort results. See Appendix D for further details.

English Language Arts – Figure 4.13 presents the cohort results for AISI English language arts and non-AISI language arts for both the acceptable standard and the standard of excellence from 1998 to 2003. At the acceptable standard, AISI students performed slightly better than their non-AISI counterparts at all three grades. For all grade levels, the gap between AISI and non-AISI students widened over time. At the standard of excellence, there were virtually no differences between the two groups.

Mathematics – Figure 4.14 presents the cohort results for AISI mathematics and non-AISI mathematics for both the acceptable standard and the standard of excellence from 1998 to 2003. At the acceptable standard, the same pattern emerges for mathematics as for English language arts, namely, students in AISI mathematics projects performed slightly better than their non-AISI counterparts at all three grade levels. Grade 9 mathematics performance declined in 2002 and 2003 for both groups and should be investigated further. At the standard of excellence, grade 3 AISI students performed slightly better their non-AISI counterparts with the gap widening over time. At grade 6, there was a slight increase in both groups over time. At grade 9, the non-AISI cohort performed slightly better than its AISI counterpart, with performance improving for both groups over all three years.

Figure 4.13: Percentage of Students Meeting Standards in English Language Arts (Cohort)





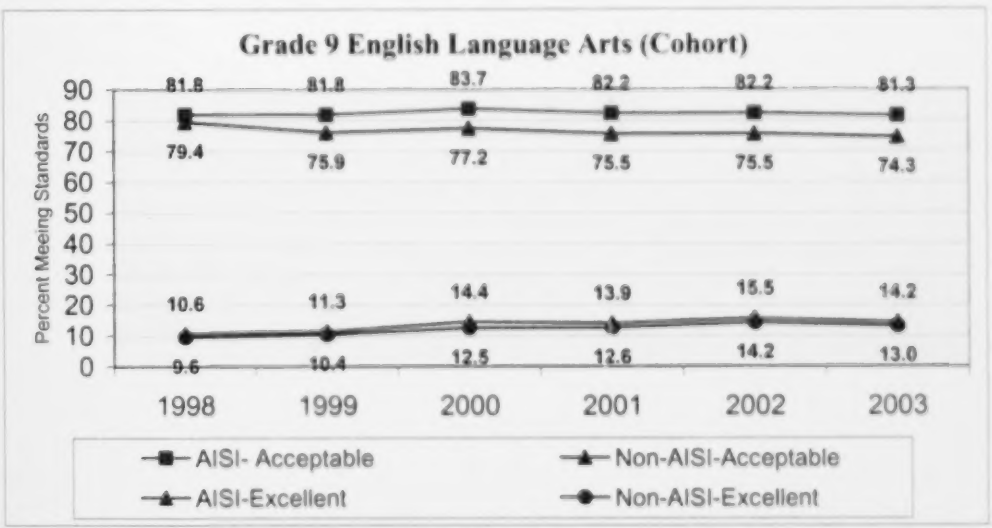
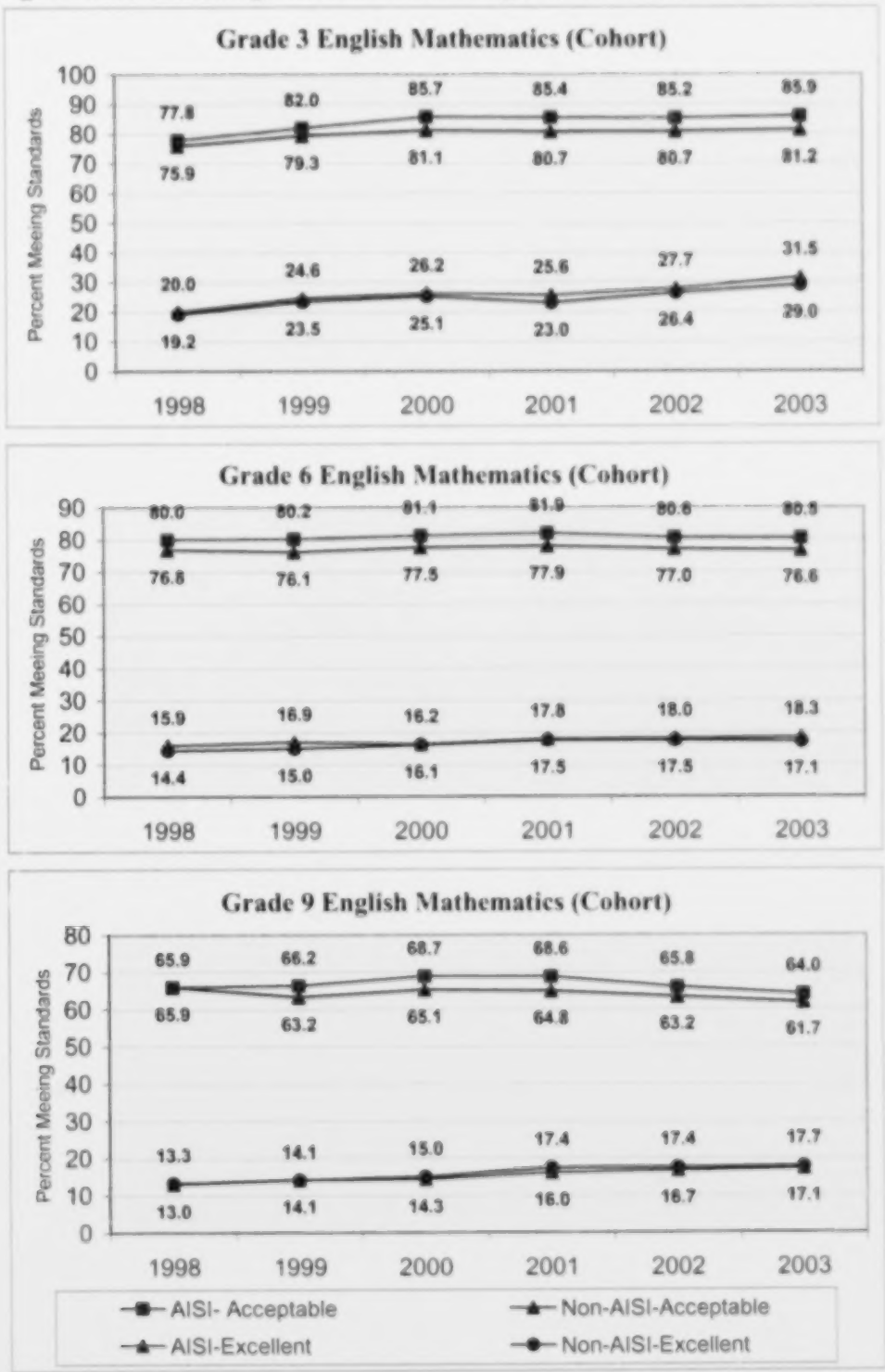
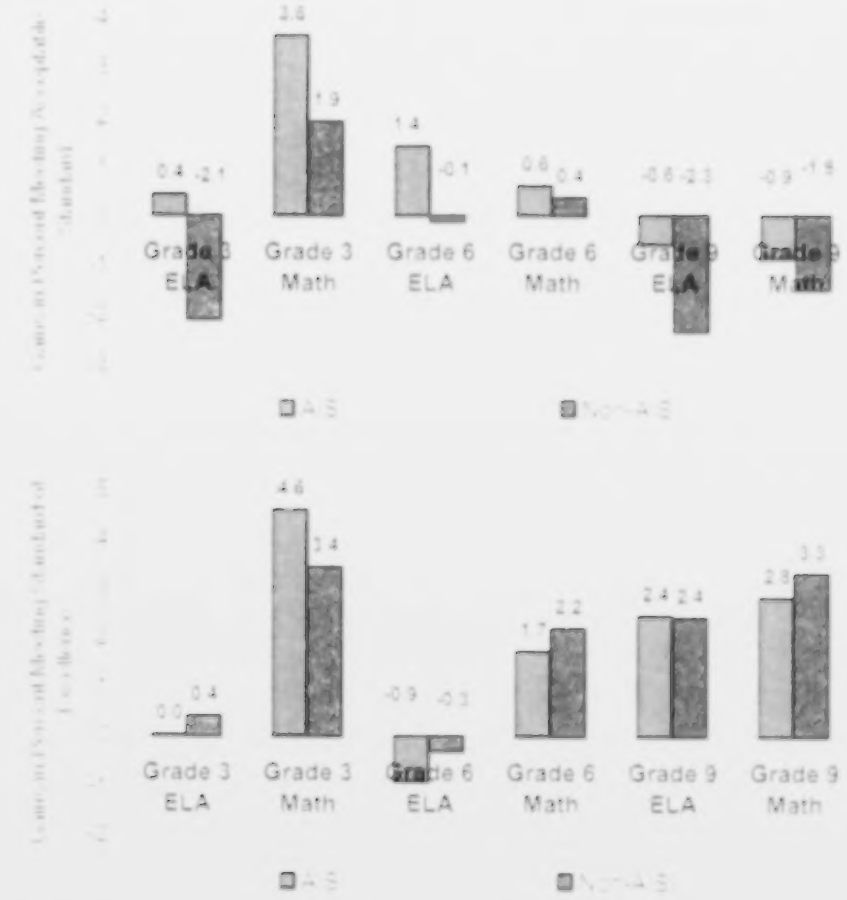


Figure 4.14: Percentage of Students Meeting Standards in (Mathematics (Cohort)



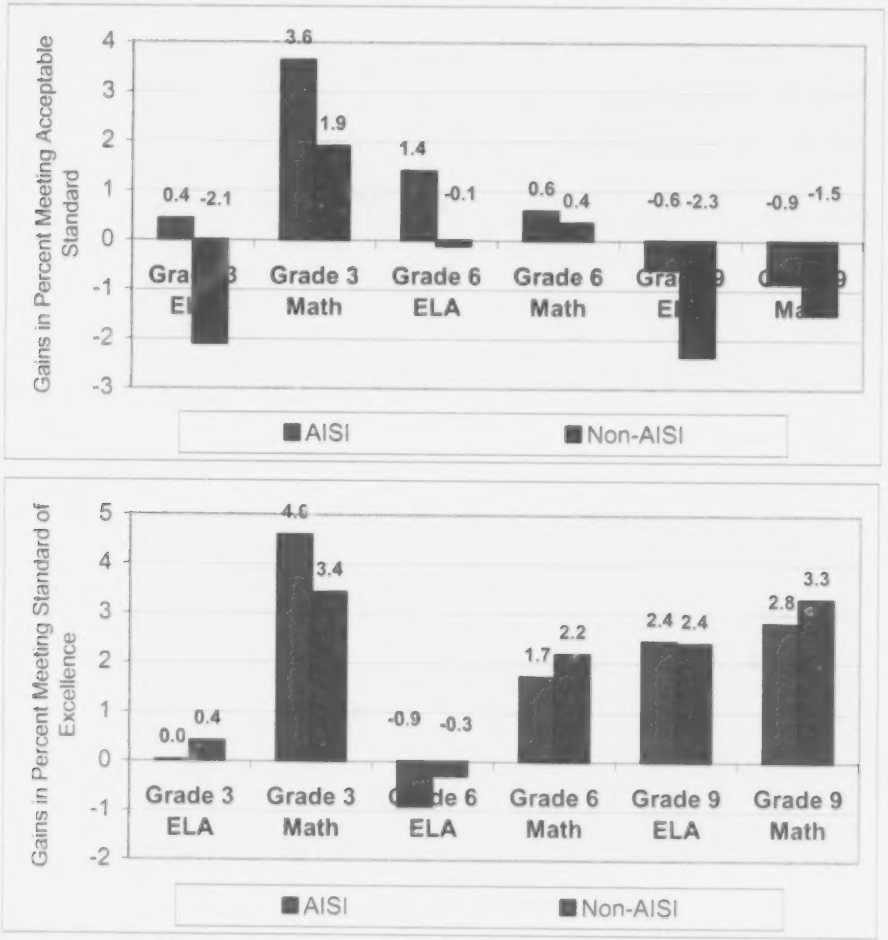

3.6
1.9
1.4
-0.1
0.6
0.4
0.4
-2.1
-0.6
-2.3
-0.9
-1.9
Grade 3 ELA
Grade 3 Math
Grade 6 ELA
Grade 6 Math
Grade 9 ELA
Grade 9 Math
4.6
3.4
2.2
2.4
2.4
3.3
2.9
0.4
0.0
-0.9
-0.3
1.7
Grade 3 ELA
Grade 3 Math
Grade 6 ELA
Grade 6 Math
Grade 9 ELA
Grade 9 Math

Gains in Cohort Achievement Over Time

While Figures 4.13 and 4.14 look at trends over time, Figure 4.15 looks at average performance of the two groups before (1998 to 2000) and during AISI (2001 to 2003). Results are provided for the percentage of students achieving both the acceptable standard and the standard of excellence at grades 3, 6 and 9.

Acceptable Standard – The AISI cohort performed slightly better than the non-AISI cohort in both subjects at all three grade levels. Average AISI performance improved in grades 3 and 6 while it declined in grade 9. Average non-AISI performance declined in grade 3 language arts and in grade 9 language arts and math. The largest differences in achievement gains between cohorts were in grade 3, where about 2% more AISI students achieved the acceptable standard on language arts and mathematics. Almost 2% more AISI than non-AISI students achieved the acceptable standard in language arts at grades 6 and 9.

Figure 4.15: Average Gains* on Provincial Achievement Tests (Cohort)



* Cohort results (2001-2003 minus 1998-2000)

Standard of Excellence – Both cohorts increased the percentage of students achieving the standard of excellence over time except for grade 6 language arts. Average differences between groups tended to favor the non-AISI cohort although the gap was very small. While there was little improvement in grade 3 language arts, about 2% more students in both cohorts achieved the standard of excellence in grade 6 math and about 3% more students in both subjects in grade 9. The largest gain occurred in grade 3 mathematics where 4.6% more AISI students and 3.4% more non-AISI students achieved the standard of excellence.

Description of Quality Measures (Narrative Approach)

Since narrative descriptions do not have specific targets, local AISI teams were asked to rate how well these measures were achieved. Of the 807 AISI projects during Cycle 1, 473 (58.6%) included 882 such measures. Most project teams rated these measures as being very well (60.2%) or well (33.8%) achieved. Only 6% of these measures were rated as marginal or not met.

Table. 4.7: Self-Ratings of Descriptions of Quality Measures

Self-Rating on how well Description of Quality measure was achieved	Number of Measures	% of Measures
Very Well	531	**60.2**
Well	298	**33.8**
Marginally	46	**5.2**
Not at All	7	**0.8**
Total	**882**	**100.0**

Duration of Projects

Another way to determine project success is to examine the proposed term of the project and its actual term. Three quarters of the projects ran for the full three years. Others either completed early or discontinued their projects.

Early Completion

Some projects that were scheduled for more than one year were completed early because they were considered to have achieved their goals. Nine projects completed after the first year and 21 after the second year of AISI. The major reason given for early completion was the acquisition of enhanced teaching resources (such as computer, technology, science, library and commercial programs) to support classroom instruction. Others decided that the project served its professional

development purposes and allocated the funds to other projects. Some decided to continue the goals through regular program funding. Essentially these projects met their objectives.

Discontinued Projects

Projects were discontinued for a variety of reasons. For the 21 projects that were discontinued after the first year of AISI, included the same goals as another project (2 projects), reallocating funding to other projects, changes in staff, and lack of time and support. Some projects were discontinued because the proposed intervention was too time consuming (e.g., screening students) or did not meet a demand (students were interested in other options than the proposed improvement strategy).

In the second year of AISI, a further 26 projects were discontinued. Three of these were district projects that were changed to school-based projects. Staffing was also a concern: teachers moved, aide time was replaced by teacher time, and in some cases lead-teacher travel time was too great. Further reasons given included the increased cost of teacher salaries, the project was too time consuming, and students were interested in other options. Some noted the discontinued project had achieved limited success. When a project was discontinued, the school authority developed and submitted a new project in its place or expanded an existing project.

Project Team Observations

The final report required school authorities to interpret their project findings. Section G of the AISI Project Final Report required information on overall results, project learnings, effective practices, sustainability/integration, and an overall summary of the project.

Public School Projects

This subsection summarizes the analysis of the Section G comments of 445 public projects.

Major Goals – The greatest impact on student learning was reported in literacy (34%), math (14%), and academic skills other than literacy or numeracy (17%). Improvement in other areas included student behavior (10%), student attitudes and/or engagement (7%), and student self-esteem or confidence (7%). Sixty-four projects (14%) reported limited impact on student learning; this included projects that had no specific learning goals or little progress shown in chosen measures.

Other project goals included increased teacher competence through professional development (21%) and increased satisfaction by parents (14%), teachers (9%), and students (8%).

Effective Practices – Section G3 required reports to address five specific areas: instructional strategies, project management, professional development, active parental involvement, and communication to parents.

1. ***Instructional strategies*** – The major strategies included using a specific curriculum or commercially developed programs (48%), integrating technology as a learning tool (26%), one-on-one or small-group instruction (20%), strategies for specifically identified students (20%), home reading (16%), and inquiry or project-based learning (11%).

2. ***Project management*** – The primary form was a coordinator or administrator overseeing the project (32%). Other approaches included the lead teacher model (16%), leadership teams or steering committees (6%), and site-based management and decision-making (6%).

3. ***Professional development*** – The major forms were inservices, conferences and workshops (47%), teacher collaboration (35%), team teaching, coaching, mentoring and peer support activities (26%), and networking (22%). Projects also identified staff developing or accessing resource materials (13%) and professional reading (11%).

4. ***Parents*** – Parents were actively involved in some manner in most (82%) projects; 18% noted limited or no parent involvement. The major types of parental involvement identified included assisting their child at home (29%), volunteering at school (22%), completing surveys (19%), and training, workshops and inservice sessions for parents (12%).

5. ***Communication*** – Most projects indicated communication to parents with only 11% making no mention of communication methods. The major methods of communication included newsletters (40%), school council meetings (34%), parent-teacher interviews/conferences (21%) and informal communication through telephone and personal contact (21%).

Sustainability – Most project teams (81%) are continuing project learnings in some form by using successful strategies in classrooms. The projects that appear to be most sustainable focused on building staff capacity whereas the least sustainable projects used one-to-one interventions or additional staff. However, 14% indicated that the project could not be sustained without AISI funding. Some of these projects have been discontinued while others have continued with funds provided by school budgets, district funds, fund raising, and grants from external agencies.

Private School Projects

This subsection summarizes the analysis of the Section G comments of 229 private projects during Cycle 1 from 2000-2003.

Major Goals – The three major areas that private projects focused on were language arts and early literacy (33%), teaching practices (16%), and technology (14%). Eighty-two projects (36%) reported an impact on literacy including language arts and English, improved readiness and developmental skills (14%), and improved math skills (10%).

Other goals included increased teacher confidence, competence, and satisfaction (19%), increased student satisfaction and confidence (7%), and increased parent satisfaction (20%).

Effective Practices – Section G3 required reports to address five specific areas: instructional strategies, project management; professional development, active parental involvement, and communication to parents.

1. ***Instructional Strategies*** – The major strategies used included one-on-one learning including pullout programs and small group instruction (17%), animated literacy programs (8%), field trips, community resource people and guest speakers (5%), and inservice and supports for parents (5%).

   Two thirds of the private projects purchased new resources (154 projects) including manipulatives for science, and resources in physical education, math, literacy and music to enable hands-on experiential learning (29%), computer hardware, software and peripherals (17%), commercial learning programs (12%), and books (8%).

2. ***Project Management*** – Project management styles varied from teacher-managed projects to collaborative projects including administration, staff, resource people, parents and in three instances, direct student involvement. Specifically, variations included teacher and parent board (30%), administration, staff and resource people (16%), administration and project staff (15%), and a project coordinator (13%).

3. ***Professional Development*** – A wide variety of language was used to elaborate on the professional development strategies used in the AISI projects. Professional development included workshops, inservice or seminars (33%), ongoing, sustained work with specialists, on-site personnel, coursework and workshops for the duration of the project (13%), and peer tutoring, support and/or sharing (12%). Thirty-nine projects (17%)indicated no professional development activities.

4. ***Parents*** – Parental involvement varied from none (13 projects) and not applicable (3) to intimate involvement through training sessions and workshops with their children and teachers in home education or blended home education programs (4). Other kinds of parental involvement included involvement in planning, implementing and evaluating projects (26%), through student work at home (19.2%), volunteering (18%), and participating in parent groups such as the Early Childhood Services (ECS) Board, Parent Advisory Councils, or school council meetings (14%).

5. ***Communication*** – There was no significant difference in strategies of communication with parents noted in the reports. ECS board, executive and parent meetings, newsletters, memos, progress reports, informal conversations with parents during student pick-up and drop-off times, parent-teacher conferences, in-school visits and classroom participation, working with IPP development were all reported. One school reported developing a website for communication and tracking assignments, homework and course outlines as its method of communication. There was no communication with parents identified in 13 reports.

Sustainability – The majority of projects were reported to be sustainable. The most common reasons given for sustainability were continued use of equipment and resources purchased through AISI funding (46%) or continued funding from the board, parents or fund-raising (36%). As well, professional development increased knowledge and skills of staff and parents (30%), which contributed to sustainability.

A Complementary Qualitative Analysis

The education partners commissioned a complementary analysis[12] of the Section G observations and promising practices from the AISI Clearinghouse to provide an external perspective. This analysis found that interventions of benefit to at-risk and special-needs students work, that teacher collaboration is crucial, and that AISI encouraged the growth of grass-roots leadership within Alberta schools. The authors reported that AISI engendered strides in teacher professional development and created opportunities for better teaching and learning. AISI also showed the effectiveness of early intervention and small group instruction. They found that effective AISI project plans were centrally coordinated, carefully planned, tightly focused, and consistently evaluated. Successful schools made multiple efforts to reach and engage parents.

The university team recommended that AISI improve upon and expand analysis and interpretation of results and provide stronger support for project design and data collection. Further, it recommended reconsideration of how parental involvement is approached and reported. Other recommendations were to study and learn from effective project management and leadership, to develop communication and publicity strategies to share AISI work more broadly, and to build sustainable infrastructures that support collaborative professional development.

Superintendents' Observations

Each year Alberta Learning field service managers meet with superintendents to discuss jurisdictions' *Three-Year Education Plans*. Table 4.8 presents superintendents' responses to questions about AISI in fall 2003. The most common ways to integrate successful strategies and practices include system-wide inservice, incorporating successful projects into the schools, providing local funding to support integration, and assigning a coordinator or lead teacher to support integration. Strategies to sustain successful strategies over time include incorporating these practices into the jurisdiction's professional development plan, budgeting funds to sustain practices, and continuing to support teachers to use the knowledge and skills acquired during Cycle 1. Superintendents plan to provide visible leadership along with their principals and promote successful projects and local school decisions. They also plan to develop staff capacity, focus on continuous improvement and hold staff accountable for results.

[12] Parsons & Servage (2004) is available on the AISI website.

Based on the superintendents' responses, field service staff recommended Alberta Learning staff share the information, actions and plans within the department as well as at AISI workshops and meetings with CASS, ASBA and the Alberta Regional Consortia. Further, this feedback should be shared within Alberta Learning to review, validate and incorporate effective practices in pertinent Alberta Learning work.

Table 4.8: Superintendents' Plans for Integrating and Sustaining AISI Lessons from Cycle 1

Question	**Observations** (frequency of response)
Integrating successful strategies[1]	Provide system wide inservice for administrators, teachers and teacher assistants. (11) Successful Cycle 1 AISI projects have been incorporated into the schools as part the teachers' instructional strategies and school plans. (9) Provide local funding to support integration. (8) Assign a coordinator or lead teacher to support integration. (7) Share AISI material resources with schools and across the jurisdiction. (5) Networks to support the Cycle 1 AISI projects continue to operate. (4)
Planning sustainability[2]	Incorporate successful practices training into jurisdiction professional development plan. (13) Budget jurisdiction and school funds to sustain successful strategies and practices. (12) Teachers continue to be supported at a school and jurisdiction level to use knowledge and skills developed through Cycle 1 AISI projects by changing structures, processes and teacher practice. (9) Rely on judgment of school-based administrators to sustain successful practices. (5) Development of a professional learning community. (4) Cycle 1 AISI projects evolved into or influenced Cycle 2 AISI projects. (4)
Superintendents' action[3]	Superintendents and principals provide leadership that is visible. (10) Promote successful projects and support local school decisions. (10) Build capacity in teachers, school leaders. (4) Focus on continuous improvement. (4) See results and hold staff accountable. (4)

Questions:

1. What actions has your jurisdiction taken to integrate successful strategies/practices from Cycle 1 of AISI projects?
2. How is your jurisdiction planning to sustain these successful AISI strategies/practices over time?
3. What do superintendents need to do to sustain and integrate successful Cycle 1 AISI strategies/practices in their jurisdictions?

Source: Field Services (2004).

5 Lessons and Recommendations

AISI's first cycle from 2000 to 2003 was filled with excitement, enthusiasm and progress. This final chapter provides lessons, AISI impacts, recommendations, agenda for Cycle 2, and a conclusion.

Lessons from Cycle 1

This section synthesizes what was learned from the analysis of both quantitative and qualitative data from Cycle 1. The lessons are organized into three subsections: students, educators, and support and infrastructure.

Student Learning

The goal of AISI is to improve student learning and performance by fostering initiatives that reflect local needs and circumstances.

1. ***Focus on Student Learning*** – Of critical importance is the focus on student learning. This requires both pressure (providing evidence of success) and support (professional development to build staff capacity). Evidence requires collecting useful data, analyzing it, and disseminating and debating findings. Instruments sensitive enough to measure intended student outcomes must be sought to provide meaningful feedback for improving learning and teaching. Teachers' engagement in the careful consideration of student work is a powerful tool for professional development and for school improvement[13].

2. ***Impact on Student Achievement*** – The majority of AISI projects made progress towards improving student learning; more than two thirds (68.6%) of 680 AISI projects with numeric data met or exceeded their **targets** on the majority of measures during the final year of Cycle 1. A higher percentage (91.1%) of projects showed improvement on half or more of their measures over the **baseline** in 2003; this percentage is similar to 93.8% in 2001 and 91.7% in 2002.

   The results indicate that AISI is having a positive effect on student learning. Provincial achievement test results in English language arts and mathematics of AISI and non-AISI students indicate that AISI results are better than non-AISI results on both subjects at all three

[13] Earl et al. (2003).

grade levels. The higher participation of AISI than non-AISI students in writing the achievement tests suggests that project involvement meant fewer students were absent and/or excused. Since many projects targeted students who are at risk, more of these students appear to have written the provincial tests.

3. ***Impact on Satisfaction*** – Student learning and performance is not only cognitive, but also affective and behavioral. Most qualitative measures were surveys of students, parents, and teachers. There were significant benefits not only in learning for students, but also in satisfaction with the project. Indeed, larger effects were found for the qualitative than the quantitative measures. While achievement benefits tended to be small (increasing performance by 8 to 12 percentile points), satisfaction benefits were moderate (increasing participant satisfaction by 16 to 26 percentile points). These results indicate that participants increased their enjoyment of learning and school during their AISI projects. Research tells us that emotion is the gatekeeper to learning; positive perceptions are not only an important outcome of schooling, but facilitate engagement in all types of learning (cognitive, affective, and behavioral).

4. ***Differential Effects*** – The findings from the first cycle of AISI are consistent with the literature. Students who are at risk or have mild and moderate special needs benefited the most from the projects. Further, regular students comprised the largest student group and also benefited. Of the subject areas analyzed, the largest effect on student achievement was found for science, while the largest effects on satisfaction were found for fine arts and science.

   Early intervention projects significantly improved student achievement with the highest effect size of any type of project (0.43). This too is consistent with the literature. These projects involved children from pre-Kindergarten to the early grades and focused on preparing students for school by improving their readiness for learning. Interestingly, satisfaction with early intervention projects was smaller; this is the only case in which achievement exceeded satisfaction.

   Of the instructional strategies, reading at home with parents and technology integration provided the largest benefits. Small groups, counseling, differentiated instruction, and small class size also provided benefits.

Educators

5. ***Enhanced teacher capacity*** – Teachers now view themselves as learners and engage in inquiry related to the impact of their practices on student learning. They talk about gathering evidence of effective practice and use it to determine what works and what doesn't for students. Teachers now examine practices with the view that what they do and how they do it is significant in student achievement. Instructional processes, not just curricular content, matter.

   Teachers serve many roles in helping students learn: teacher, mentor, and facilitator. Enhancing teacher capacity through professional development requires ongoing commitment

and support. In addition to the usual inservices, workshops and conferences, AISI project teams were involved in many different types of professional development including teacher collaboration, team teaching, coaching, mentoring, peer support, and networking. Fully 17% of AISI expenditures were on professional development activities. Effective professional development must be sustained, job-embedded, and focused on specific topics that have high potential to increase student learning.

Professional development must be directed toward improving student learning and evaluated to determine whether it has resulted in increased learning and achievement for students. Capacity building that engages the entire teaching staff of a school is more effective than professional development for just a few teachers. If improving student learning is viewed as a school priority, it is more likely to take place.

The partners continue to support provincial workshops to assist project teams. Each Alberta Faculty of Education is continuing to receive funds in order to provide assistance to AISI project teams. Staff in the School Improvement Branch continue to conduct workshops, provide advice, and undertake site visitations.

6. ***Teachers as researchers*** – Traditionally teachers have viewed educational research apart from their day-to-day work and viewed their work from a craft perspective. Teachers now engage in professional reading and read research as a way to support more effective teaching practice. This is a significant shift in mental models of teaching and learning.

   Learning first-hand from research and ongoing personal experience optimizes the effectiveness of the research enterprise. Since research is a process of inquiry and context matters in reflecting upon and understanding instructional phenomena, AISI is developing a large group of collaborative action researchers. This cannot but help to enhance the quality of instruction as teachers become more knowledgeable about instructional strategies and the outcomes that can be expected from them. Furthermore, a group of inquiring and reflective practitioners is an important AISI outcome.

7. ***Leadership*** – Shared leadership and investment in people are essential for success. Projects require leaders who can coordinate one or more project(s) and support teachers, who in turn are most effective when they collaborate in honing their instructional strategies through their projects. Projects also require support both from the central administration and the school principal. Successful projects have the involvement of all participants in the school – students, teachers, administrators, and parents.

   AISI has been successful in developing a new generation of leaders. Many AISI coordinators are moving into school and district leadership positions. They take to their new positions what they have learned through AISI: working with staff to identify, select and/or adapt research-based intervention strategies and assessment tools, keeping staff committed and on track, collecting and analyzing data from multiple sources, interpreting and reporting findings and implications. As AISI coordinators and lead teachers move on to school and district leadership positions, others assume AISI leadership positions. Thus, there is

continuity both through better-prepared school and district leaders, and project renewal and fresh ideas as others assume AISI leadership responsibilities.

8. ***Relationships*** – An enduring legacy of AISI is the development of improved relationships: among the education partners, among staff in schools, and between educators and academics, teachers and students, and teachers and parents. AISI projects served to reduce the isolation many teachers feel in their classrooms. By working together, teachers developed a renewed sense of professionalism and pride in their enhanced instructional repertoires. Experienced teachers delighted in the impact of the new practices they embraced while young teachers benefited from the coaching and collaborative relationships in projects that established a culture of continuous improvement. A reciprocal relationship developed between AISI teachers and university AISI contacts; teachers benefited from the knowledge and expertise of the academics, who in turn learned first-hand about school improvement from the teacher practitioners.

Support and Infrastructure

9. ***Funding*** – Without targeted provincial funding, it is unlikely that the positive effects from AISI would have taken place. The annual investment of $68 million (about 2.1% of the Alberta Learning operating funding to public, separate, and private schools in the province) contributed to improved student learning and satisfaction in AISI schools, committed and capable teachers, improved relationships in the education community, a renewed sense of professionalism, enhanced parental involvement, and Alberta leadership in the school improvement movement. AISI is unique in getting an entire province involved in establishing new and innovative ways to improve student learning and performance.

   Extending the funding to a second cycle attests to the benefits that have emerged from the first cycle. Requiring new three-year projects as opposed to continuing to fund existing projects serves to keep the focus on AISI as intended – ensuring active engagement in new and creative ways to improve student learning. Incorporating what is learned from a three-year project into regular instructional practice serves to extend the effects. Much like a pebble in a pond, AISI's effect is spreading across the educational landscape in the province.

   There has been a strong impact on school culture and teacher perceptions of themselves as leaders and learners. This culture has had a significant impact on improved practice and the establishment of professional learning communities. Enhancing teacher capacity has become a second major outcome of AISI. This strong capacity-building aspect has contributed to keeping teachers up-to-date in educational research and promising practices. Three years of trying and refining new strategies should result in the integration of these practices as part of habitual and ongoing instructional practice. Effective teaching improves student learning.

10. ***Administration and time*** – Improving student learning and professional capacity takes time. Projects that build staff capacity are more promising in terms of continuing improvement. Projects need to include a plan for integrating and sustaining what is learned once the project is over in order to produce long-term benefits.

About 5% of AISI funds were spent on administrative support. Project teams found that time during the day was essential for teacher collaboration in developing and implementing their projects. AISI activities became part and parcel of the normal work life of a teacher. Without sufficient support, projects did not succeed as well. Many districts underestimated the amount of administrative support required for their projects. Some authorities chose to use their central office administrators for support so that they could allocate all AISI funds directly to project goals. Others provided release time out of AISI funds for on-site or central coordinators. As noted, the latter approach was more effective in achieving maximum benefit from their projects.

Project participants[14] identified some key learnings from the first three-year AISI cycle:

- Time is critical for planning, evaluating and collaborating.
- AISI provides opportunities for people to develop their leadership skills and experience.
- AISI helps establish a way of thinking about a skills program that teachers can build on and integrate.
- AISI affirms the importance of integrating learnings into the classroom.
- Students enjoy new ways of learning and will improve their learning as a direct result of improving teacher capacity.

11. ***Measurement*** – AISI projects are expected to have measures that are aligned with the goals and strategies of the project. These measures provide data on the success of the projects and inform future directions as well as form the basis for what is learned from AISI projects. Project teams were advised to keep the number of measures for each project manageable and directly focused on their goals. Many project teams reduced the number of measures during the last two years. Projects that focused on student achievement used a variety of independent measures such as the provincial achievement tests and diploma examinations, and more than 40 other assessment instruments (e.g., Canadian Tests of Basic Skills, Gates-MacGinite Reading Tests, Schonell Tests, Brigance Tests, etc.). Projects that included affective and behavioral goals required development or adaptation of local measures resulting in extra work in analyzing, interpreting and reporting results.

    AISI has contributed to teachers making data-driven decisions about student achievement and engaging in instructional practices that are based on research evidence. Building and sustaining staff capacity to collect, analyze and interpret data requires a continuing focus on professional development. Over the next year ongoing workshops will assist project coordinators in dealing with issues of number and appropriateness of measures, validity of inferences from diverse sources of information, and reporting. Cycle 2 should focus on finding better measures and more in-depth analysis of results.

[14] Alberta Initiative for School Improvement (2003).

12. ***Sharing and dissemination*** – The 807 public and private school authority projects created new knowledge that is being shared in the online AISI Clearinghouse. This searchable online repository contains not only the individual project reports, but also the products, tools and promising practices. The AISI Clearinghouse is still a work in progress but, when fully implemented, will include in-depth analyses, narrative commentaries, and syntheses that summarize project results.

    Other ways to share information include the annual provincial conferences and workshops. Most school authorities routinely share information at staff meetings and professional development days. The partners also feature AISI through their various communication channels.

    With the completion of Cycle 1, AISI is in a position to share results outside the province. Over the next year, AISI partners are investigating opportunities to present findings to national and international conferences.

13. ***AISI partnership*** – The ongoing partnership between Alberta Learning and its six major education partners (the Alberta Home and School Councils' Association [AHSCA], the Alberta School Boards Association [ASBA], the Alberta Teachers' Association [ATA], the Association of School Business Officials of Alberta [ASBOA], the College of Alberta School Superintendents [CASS], and the Alberta Faculties of Education) has contributed to the success of AISI. Each partner continues to work with its constituents in improving student learning and performance in Alberta.

AISI Impacts

During its initial three years of implementation, AISI has had a profound impact on the culture of schools in Alberta. Quotations from teachers and administrators involved in AISI projects as reported in Section G of the final reports illustrate the impacts.

1. ***Improved student learning*** – AISI had a positive and sustained impact on student learning during Cycle 1. More than 90% of the projects exceeded their baseline on the majority of measures every year. On average over the three years, 48% of the projects improved student learning and 57% improved satisfaction (students, parents, and teachers). AISI students performed better than their non-AISI counterparts on English language arts and mathematics on the grades 3, 6 and 9 provincial achievement tests.

    > *Overall, participation in the AISI project these past three years has been an amazing experience for both our staff and our students. Our students were given more opportunities for one-on-one within smaller group settings, and we as teachers were given the opportunity to teach these smaller groups, peer coach and team-teach with our colleagues. Our weaker students thrived because they became more confident in their skills and were willing to participate in class discussions. The extra teacher in the classroom allowed for our students to participate in math labs that were both fun and educational, and allowed for more one-on-one interaction. Confidence levels in the math class have increased because students are finding more interest and intrigue in learning mathematics. The students' results increased over the past three years.*

2. ***Culture of continuous improvement*** – Brain research has shown that emotion drives attention, learning, memory and behavior. The emotional investment demonstrated by staff involved with AISI projects has resulted in a renewed energy and excitement for school improvement. AISI promotes a culture of shared responsibility for continuous improvement in schools and jurisdictions that clearly align school improvement goals and classroom practices. Schools operating as learning communities actively engage both teachers and students in learning.

> *The greatest outcome of this project is that teachers are talking to each other about teaching strategies and effective practices. There is a support system in place that allows for sharing new and innovative methods of teaching our students. All students are given the benefit of different expertise and teachers are trying different approaches. They know whom to call on for different types of material and advice. They have the tools and are working to refine them as well as expand resources. Teachers are working to maintain a high level of achievement across the district. They will continue to reassess the results and to address any future concerns.*

3. ***Renewed focus on teaching and learning*** – There is a renewed focus on learning as the central purpose of schooling. Both teachers and students have benefited from this emphasis on continuous learning and improvement.

> *In many schools, teacher teams were organized for the purpose of collaborative planning. In each of the teams, the driving force behind any discussion about how to differentiate instruction began first with an analysis of the needs of the students in the classroom for which the lesson/activity/ project was intended.*

4. ***Innovation and creativity*** – AISI is unique as a province-wide, funded initiative to improve student learning that trusts local authorities to decide how to improve student learning by fostering projects that address local needs and circumstances. AISI recognizes that one size does not fit all, that needs vary across the province, and that there are many different ways to accomplish the same goal, namely, improved student learning and performance.

> *Students are encouraged to be creative in their solutions to routine and non-routine problems. Students, now more than ever, are encouraged to be creative in the math classroom. They build, read and write stories and poems, read math books, and are encouraged to work in partners and small groups in the math classroom! No longer is the math classroom silent. It is abuzz with the sounds of students sharing their best practices!*

5. ***Shared language*** – Teachers, students, parents and administrators are developing a common language of school improvement. With 90% of Alberta schools involved in an AISI project, the language of improvement – goals, strategies, measures, baselines, targets, and results – are now widely understood and used.

> *AISI has given us the opportunity to learn from each other and has provided the forum to learn what other schools are doing. This has been an invaluable experience at [our school].*

6. ***Research in classrooms*** – More teachers are routinely reading the research literature and becoming better versed in research-based practices for improving teaching and learning. This openness to evidence and new ideas contributes to a culture of continuous improvement in schools.

Teachers who engage in action research with others are by necessity hopeful and are contributing to a community effort. These are the activities that build pride in one's profession and make teaching more fun. Moreover, the research activities can give teachers a greater voice in discussing the conditions and aims of their own work since their opinions about such things are better warranted through their own research. (Berliner, 2004)

7. ***New knowledge*** – Teachers are contributing to the body of knowledge about teaching and learning. In many cases they are corroborating the research evidence from other places in the Alberta context.

   The project teachers, students and educational assistants can bring their new knowledge, skills and attitudes forward to new teaching and learning situations, continuing to build upon the foundation provided.

8. ***Evidence-based decisions*** – Teachers are making better informed decisions about student learning and instructional practices based on solid evidence collected through appropriate assessment strategies that include standardized tests, rubrics, observations, and teacher-made approaches. Schools are surveying students, parents, and staff to get their input into educational processes and desired outcomes.

   Teachers have shown tremendous commitment to improving student achievement in reading and writing by undertaking extensive training and in changing their teaching and assessment practices.

9. ***Job-embedded professional development*** – There is an increased emphasis on professional development. Schools are using a variety of professional development (PD) strategies to meet local needs and PD has become embedded in school improvement initiatives. School jurisdictions now use markedly different PD models that have evolved from one-time experiences to focused, collaborative and ongoing activities targeted at meeting specific learner needs. Self-direction and application of learnings have changed the way PD is offered with a renewed focus on improving student learning.

   We have concluded that without the project, the collaboration between the math teachers would not have taken place at the levels they do now. Our teachers would not have access to the variety of performance assessments, projects and cooperative learning strategies that AISI has provided. They would not have received additional support from the key teacher and have not had time to reflect on their own teaching. Professional development activities would not have been scheduled and our achievement results may not have improved.

10. ***Shared and distributed leadership*** – Staff willingness to take on leadership roles and to involve the school community, parents and students, where appropriate, has facilitated the partnerships needed to achieve school improvement in a holistic way. The partners all contribute to supporting school improvement and this is evident at local and provincial levels. AISI has contributed to widespread development of a new generation of education leaders. Many teachers who became AISI coordinators and team leaders went on to school and district leadership positions. A culture of shared/distributed leadership has become common in Alberta schools.

    Teachers and principals, students and parents have been empowered and are taking control and responsibility for the teaching and learning within their school. Leadership capacity at all levels has been enhanced. Student achievement has increased.

11. ***Engaged parents*** – AISI projects have made a concerted effort to engage parents in meaningfu ways in their children's learning and school improvement activities. An effective parental involvement strategy was having children read at home with their parents; this strategy was found to improve student achievement.

> *Training additional staff has resulted in enhanced teaching practices and support for the "at risk" student in the classroom. Students are showing tremendous growth in reading and writing skills as well as improved confidence in their abilities. Parents are supportive of the program and are taking steps to maintain the positive effects the program has made on their child.*

Recommendations

The results of AISI Cycle 1 lead to a number of recommendations for all partners during Cycle 2. Recommendations are proposed for school authorities, schools, universities, parents, education partners, and government.

School Authorities

1. School authorities should continue to focus their AISI projects on improving student learning and performance to address local needs and circumstances. Project focus must continue to be on student learning, with all other actions in support of this goal.

2. School authorities should ensure appropriate and adequate project support through appointment of one or more project coordinator(s) responsible for overall coordination and support of each project. AISI funds should be used for coordinator time as determined by local needs.

3. School authorities should integrate what was learned during Cycle 1 into their policies, programs and practices.

4. School authorities should share what has been learned, both within the district and with others by posting promising practices, products and tools on the AISI Clearinghouse.

5. School authorities should focus on the selection of relevant measures to collect data, comprehensive analysis and interpretation of findings, and documented evidence of success.

6. School authorities should involve staff and parents in all phases of planning, implementation and analysis of results. Projects should reflect support of those who will implement them.

7. School authorities should provide opportunity for focused and sustained staff professional development that focuses on improving student learning through achievement of project goals. This has the greatest potential for transforming practice. All staff should be involved in collaborative and meaningful professional development.

Schools

8. Professional learning communities foster supportive and shared leadership, collective creativity, shared values and vision, supportive conditions, and shared personal practice[15]. School-wide projects that involve all staff (in project design, implementation and evaluation of results) are more likely to sustain a culture of continuous improvement.

9. Schools should plan for staff collaboration on AISI activities. Joint planning, developing and implementing instructional strategies, and analyzing and reporting results foster staff capacity and commitment to the project.

10. Schools should integrate what was learned during Cycle 1 into their policies, programs and practices.

11. School improvement plans should incorporate school-wide professional development for staff.

12. Schools should make greater efforts to involve parents in school and their AISI projects. Parents are their children's first teachers and their most important advocates. Involvement of parents and school councils can enhance communication between the school and home and contribute to improved student learning.

Universities

13. AISI contains a wealth of data for scholarly analysis of an innovative province-wide school improvement initiative. Graduate students could make aspects of AISI their thesis and dissertation topics. This would contribute to further in-depth analysis of AISI results and scholarly documentation of AISI.

14. Faculties of Education are essential in incorporating what is learned through AISI into both their initial teacher preparation and graduate programs. Alberta schools have become a natural laboratory for educational improvement.

15. Wherever possible, student teachers should be placed in AISI schools to learn first-hand about new instructional strategies and to participate in a culture of continuous improvement. Teachers in these schools can provide excellent coaching and mentoring for the new generation of prospective teachers.

Parents

16. Parents should actively engage in the education of their children. Parents who support their children in their schooling and educational aspirations increase their children's life prospects.

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[15] Hord (1997).

17. Parents should become involved in AISI through their schools and through their school councils.
18. The Alberta Home and School Councils' Association and Alberta Regional Consortia should provide professional development and support for parents, including knowledge about and involvement in AISI.

Education Partners

19. Education partners should continue to demonstrate leadership and work collaboratively so that AISI fulfils its potential.

20. Education partners should ensure that AISI continues to focus on improving student learning and performance.

21. Education partners should continue to assess AISI and to use evidence to inform recommendations.

22. Education partners should share effective practices with their constituents.

Government

23. Alberta Learning should continue to ensure that AISI funding remains targeted. Government is demonstrating its commitment to school improvement by continued targeted funding for Cycle 2 of AISI.

24. Alberta Learning should continue to enhance its staff knowledge about AISI and should integrate what was learned during Cycle 1 into its policies, programs and practices.

25. Alberta Learning should use AISI evidence to inform decision making.

26. The School Improvement Branch should continue to expand the development of the Clearinghouse and support the sharing of effective practices.

27. The School Improvement Branch should continue to provide support to school authorities in the areas of project design, implementation, and evaluation.

Agenda for Cycle 2

AISI partners and stakeholders need to focus on continuing to improve the initiative. Cycle 1 taught us much about how to mount a province-wide strategy for improving student learning and performance. The positive results are encouraging. It is now time to refine practices and analyze in depth strategies that promise to have a significant impact on all students.

1. Documentation of what was learned during Cycle 1 is being placed in the ***Clearinghouse***. Project lessons can and should be shared with others. Without sound documentation of plans, results, conclusions, and promising practices, the acquired knowledge will be lost.

2. Province-wide ***professional development*** will continue the collaborative approach to capacity building and engage educators in ongoing dialogue on school improvement across the province. Better measurement and interpretation of findings are two areas for shared professional development.

3. Alberta Learning needs to continue to work collaboratively with the ***universities*** to refine and enhance the services and support to school authorities on their AISI projects.

4. ***Communication*** by all partners to their respective members to keep them abreast of AISI is desirable. School authorities and AISI partners must continue to share information through the many communication vehicles available such as AISI conferences, through writing articles and reports, meetings, and other opportunities to share the good news.

5. ***Celebration*** of success is important. AISI is a tremendous achievement when all of its benefits are counted: improved student learning, enhanced staff capacity, improved relationships, and a common language and practical knowledge about school improvement. The provincial conference is the most visible way to celebrate what has been accomplished each year, but it is only one of many.

Conclusion

> *Major investments should continue to be made in educational research, particularly active, classroom-based research through the highly successful Alberta Initiative for School Improvement.*
>
> Alberta's Commission on Learning (2003, p. 37).

> *AISI – what a lovely, and sensible, research-based idea you all have put into effect, namely, that to improve schools at the local level, one should base plans on the perceived needs of those at the local level.* David Berliner (2004)

Cycle 1 of AISI achieved all of the Minister's 1999 expected outcomes. It developed a program that contributes to improved student learning and performance. It established a foundation of trust between government and education stakeholders. It created a model for collaboration that has been employed in other government initiatives. It established accountability measures and criteria to provide evidence that the initiative is working. And finally, continuous improvement has become AISI's *modus operandi*.

This collaborative initiative between government and its partners[16] (AHSCA, ASBA, ATA, ASBOA, CASS, Universities) and Alberta teachers, administrators, trustees, parents, and

[16] Alberta Home and School Councils' Association (AHSCA), Alberta School Boards Association (ASBA), Alberta Teachers' Association (ATA), Association of School Business Officials of Alberta (ASBOA), College of Alberta School Superintendents (CASS), Universities (Alberta, Calgary, Lethbridge).

universities in achieving a common goal – improved student learning and performance – through locally developed and implemented projects that address unique needs and circumstances is in the vanguard of improvement initiatives around the world. It provides funding for every school authority in the province to establish its own improvement projects. Cycle 1 has demonstrated that the trust in local priorities and implementation was justified.

AISI represents an effective approach that focuses on improving student learning through partnerships and collaboration in a culture of continuous improvement, inquiry and reflection. Even though AISI has met expectations and raised the standard for school improvement, it is still a work in progress. Continuous improvement is a mindset that now permeates the education community in Alberta. As a consequence, AISI is refining its processes and putting higher expectations in place for local projects to improve student learning.

There is still much to be done in identifying and using better ways to measure desired outcomes. More in-depth analyses will allow us to mine the treasure trove of promising practices in instructional strategies, project leadership, and collaboration. There is also an expectation that creativity, innovation and integration of effective practices will become the norm during Cycle 2.

The next three years of AISI will consolidate emerging knowledge and synthesize what works. It will build on the enthusiasm and commitment from the first cycle and expand AISI's sphere of influence to more teachers and students in Alberta. During Cycle 2, greater focus on collecting the right data, in-depth analysis of promising practices, and further dissemination of findings will be fundamental to the future success of AISI.

We've only just begun![17]

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Appendix A: Financial Information

The following three tables present AISI expenditures in Cycle 1. There is a table for public authorities (public, separate and francophone authorities and charter schools), private (ECS private operators and private authorities), and all combined.

For all school authorities, actual expenditures on 'Staffing and Benefits' over the three years of Cycle 1 represented almost 84% of total AISI expenditures and over 1,000 FTE teachers, teacher assistants and AISI coordinators per year. Supplies and services, capital and other expenses represented about 10.2%, 3.2% and 2.7% respectively of total AISI expenditures over the three years.

Note that the actual expenditures include those funded from contributions to AISI projects from other sources. These totaled 4.5% of funding for all projects, representing about $9 million of AISI expenditures.

Of the actual expenses for Cycle 1, 16.7% was expended on professional development (substitute cost, release time, outside instructors, supplies and equipment) and 4.8% on administrative support.

Public Boards and Charter Schools – AISI Expenditures in Cycle 1

Expense Category	2000/2001		2001/2002		2002/2003		Cycle One Total	
	Budget	Actual	Budget	Actual	Budget	Actual	Budget	Actual
Staffing and Benefits	$52,709,667	$47,156,238	$56,430,289	$55,840,842	$60,616,222	$62,955,390	$169,756,178	$165,952,470
Supplies and Services	6,882,471	7,428,492	6,148,163	6,067,728	4,810,932	5,525,914	17,841,566	19,022,134
Equipment and other capital	2,540,857	1,965,079	1,838,827	1,962,700	1,442,344	1,443,886	5,822,028	5,371,665
Other Expenses	1,171,459	1,416,156	305,970	2,361,670	2,732,220	1,625,604	4,209,649	5,403,430
Total Expenses	$63,304,454	$57,965,965	$64,723,249	$66,232,940	$69,601,718	$71,550,794	$197,629,421	$195,749,699

Actual expenditures on 'Staffing and Benefits' over the three years of cycle one represented almost 85% of total AISI expenditures and over 1,000 FTE teachers, teacher assistants and AISI coordinators per year. Supplies and services, capital and other expenses represented about 9.7%, 2.7% and 2.8% respectively of total AISI expenditures over the three years.

Note that the actual expenditures include those funded from contributions to AISI projects from other sources. These totaled 4.2% of funding for the public projects, representing about $8.2 million of public authority AISI expenditures.

Of the actual expenses for cycle one, 16.8% was expended on professional development (substitute cost, release time, outside instructors, supplies and equipment) and 4.9% on administrative support.

Private Authorities – AISI Expenditures in Cycle 1

Expense Category	2000/2001		2001/2002		2002/2003		Cycle One Total	
	Budget	Actual	Budget	Actual	Budget	Actual	Budget	Actual
Staffing and Benefits	$802,242	$939,535	$925,985	$1,159,233	$1,134,765	$1,285,963	$2,862,992	$3,384,731
Supplies and Services	476,165	440,206	489,622	518,414	600,807	522,217	1,566,594	1,480,837
Equipment and other capital	351,314	475,849	350,693	380,152	333,538	299,677	1,035,545	1,155,678
Other Expenses	38,355	20,973	44,906	56,576	43,249	34,147	126,510	111,696
Total Expenses	$1,668,076	$1,876,563	$1,811,206	$2,114,375	$2,112,359	$2,142,004	$5,591,641	$6,132,942

Actual expenditures on 'Staffing and Benefits' over the three years of cycle one represented 55.2% of total AISI expenditures. Supplies and services, capital and other expenses represented about 24.2%, 18.8% and 1.8% respectively of total AISI expenditures over the three years.

Note that the actual expenditures include those funded from contributions to AISI projects from other sources. These totaled 13.7% of funding for the private projects, representing about $841,000 of private authority AISI expenditures.

Of the actual expenses for cycle one, 15.1% was expended on professional development (substitute cost, release time, outside instructors, supplies and equipment) and 3.8% on administrative support.

Public Boards and Charter Schools – AISI Expenditures in Cycle 1

Expense Category	2000/2001		2001/2002		2002/2003		Cycle One Total	
	Budget	Actual	Budget	Actual	Budget	Actual	Budget	Actual
Staffing and Benefits	$52,709,667	$47,156,238	$56,430,289	$55,840,842	$60,616,222	$62,955,390	$169,756,178	$165,952,470
Supplies and Services	6,882,471	7,428,492	6,148,163	6,067,728	4,810,932	5,525,914	17,841,566	19,022,134
Equipment and other capital	2,540,857	1,965,079	1,838,827	1,962,700	1,442,344	1,443,886	5,822,028	5,371,665
Other Expenses	1,171,459	1,416,156	305,970	2,361,670	2,732,220	1,625,604	4,209,649	5,403,430
Total Expenses	$63,304,454	$57,965,965	$64,723,249	$66,232,940	$69,601,718	$71,550,794	$197,629,421	$195,749,699

Actual expenditures on "Staffing and Benefits" over the three years of cycle one represented almost 85% of total AISI expenditures and over 1,000 FTE teachers, teacher assistants and AISI coordinators per year. Supplies and services, capital and other expenses represented about 9.7%, 2.7% and 2.8% respectively of total AISI expenditures over the three years.

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Private Authorities – AISI Expenditures in Cycle 1

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Supplies and Services	476,165	440,206	489,622	518,414	600,807	522,217	1,566,594	1,480,837
Equipment and other capital	351,314	475,849	350,693	380,152	333,538	299,677	1,035,545	1,155,678
Other Expenses	38,355	20,973	44,906	56,576	43,249	34,147	126,510	111,696
Total Expenses	$1,668,076	$1,876,563	$1,811,206	$2,114,375	$2,112,359	$2,142,004	$5,591,641	$6,132,942

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Of the actual expenses for cycle one, 15.1% was expended on professional development (substitute cost, release time, outside instructors, supplies and equipment) and 3.8% on administrative support.

All Authorities – AISI Expenditures in Cycle 1

Expense Category	2000/2001 *		2001/2002		2002/2003		Cycle One Total	
	Budget	Actual	Budget	Actual	Budget	Actual	Budget	Actual
Staffing and Benefits	$53,511,909	$48,095,773	$57,356,274	$57,000,075	$61,750,987	$64,241,353	$172,619,170	$169,337,201
Supplies and Services	7,358,636	7,868,698	6,637,785	6,586,142	5,411,739	6,048,131	19,408,160	20,502,971
Equipment and other capital	2,892,171	2,440,928	2,189,520	2,342,852	1,775,882	1,743,563	6,857,573	6,527,343
Other Expenses	1,209,814	1,437,129	350,876	2,418,246	2,775,469	1,659,751	4,336,159	5,515,126
Total Expenses	$64,972,530	$59,842,528	$66,534,455	$68,347,315	$71,714,077	$73,692,798	$203,221,062	$201,882,641

Actual expenditures on 'Staffing and Benefits' over the three years of cycle one represented almost 84% of total AISI expenditures and over 1,000 FTE teachers, teacher assistants and AISI coordinators per year. Supplies and services, capital and other expenses represented about 10.2%, 3.2% and 2.7% respectively of total AISI expenditures over the three years.

Note that the actual expenditures include those funded from contributions to AISI projects from other sources. These totaled 4.5% of funding for all projects, representing about $9 million of AISI expenditures.

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All Authorities – AISI Expenditures in Cycle 1

Expense Category	2000/2001		2001/2002		2002/2003		Cycle One Total	
	Budget	Actual	Budget	Actual	Budget	Actual	Budget	Actual
Staffing and Benefits	$53,511,909	$48,095,773	$57,356,274	$57,000,075	$61,750,987	$64,241,353	$172,619,170	$169,337,201
Supplies and Services	7,358,636	7,868,698	6,637,785	6,586,142	5,411,739	6,048,131	19,408,160	20,502,971
Equipment and other capital	2,892,171	2,440,928	2,189,520	2,342,852	1,775,882	1,743,563	6,857,573	6,527,343
Other Expenses	1,209,814	1,437,129	350,876	2,418,246	2,775,469	1,659,751	4,336,159	5,515,126
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Of the actual expenses for cycle one, 16.7% was expended on professional development (substitute cost, release time, outside instructors, supplies and equipment) and 4.8% on administrative support.

Appendix B: AISI Projects

There were 807 projects operating in active school authorities in Cycle 1 of AISI. The following table presents the number of projects and percentage of projects for groups of students, themes, subject areas, division/grade levels/ teaching strategies, and types of measures.

Table for Figures 2.1 to 2.6

Targeted Groups of Students	Number of Projects	% of Projects
Aboriginal	48	5.9
At-Risk	178	22.1
English as a Second Language (ESL)	76	9.4
Francophone	13	1.6
Gifted/Talented	98	12.1
Hutterite	9	1.1
Regular	523	64.8
Special Needs	230	28.5
Other	12	1.5
All Students	112	13.9
Themes		
Assessment	44	5.5
Behavioral Improvement - Character Education	17	2.1
Behavioral Improvement - Safe & Caring Schools	19	2.4
Behavioral Improvement - Building Resiliency	12	1.5
Early Intervention	86	10.7
ECS Readiness	76	9.4
High School Completion	31	3.8
Multiple Intelligences	28	3.5
Parent/Community	80	9.9
Professional Development	246	30.5
Resources (equipment, books library, upgrade)	234	29.0
Retention	26	3.2
School Climate	19	2.4
Student Services - Career Education	14	1.7
Student Services - Peer Support	7	0.9
Technology	141	17.5
Transition Programs	27	3.3
Wellness (including drug awareness)	12	1.5
Other (including hiring various specialists, sound field systems, 7 Habits)	50	6.2
Student Services - General	18	2.2
Meta-cognition (Brain Gym, Thinking about Thinking)	7	0.9

Subject Areas	Number of Projects	% of Projects
Career and Technology Studies	17	2.1
Core (LA, SS, Ma, Sc)	93	11.5
Fine Arts	33	4.1
French - Immersion	11	1.4
French - Second Language	5	0.6
French - Francophone	8	1.0
Integrated Occupational Program (IOP)	5	0.6
Language Arts/Literacy	277	34.3
Life Skills (CALM)/Health	18	2.2
Mathematics/Numeracy	126	15.6
Physical Education	21	2.6
Registered Apprenticeship Program (RAP)	3	0.4
Science	32	4.0
Second Languages (Other than French)	8	1.0
Social Studies	18	2.2
Work Experience	4	0.5
Other	25	3.1
Division/Grade Level		
Pre-Kindergarten	84	10.4
Elementary (K-3)	502	62.2
Elementary (4-6)	383	47.5
Junior High (7-9)	362	44.9
High School (10-12)	246	30.5
Teaching Strategies		
Alternative Delivery	24	3.0
Differentiated Instruction	41	5.1
Enrichment	36	4.5
Guest Speakers	17	2.1
Hands-on Experiences (Experiential Learning)	58	7.2
Independent Learning	15	1.9
Individual Programming	64	7.9
Mentoring	23	2.9
Multi-Grading	12	1.5
Paraprofessionals	43	5.3
Problem Solving	31	3.8
Projects	36	4.5
Resource Room (including pull out programs)	27	3.3
Small Class Size	30	3.7
Small Groups	88	10.9
Teaching to Accommodate Learning Styles	47	5.8
Team Approach	33	4.1

Teaching Strategies (continued)	**Number of Projects**	**% of Projects**
Tutoring	32	**4.0**
Workshops	19	**2.4**
Other (including outreach, daily intensive reading instruction)	46	**5.7**
Full Day Kindergarten	5	**0.6**
Computer Assisted Instruction (including auto skills)	44	**5.5**
Balanced Literacy	24	**3.0**
Animated Literacy	8	**1.0**
Inclusive Education	9	**1.1**
Guided Reading/Blended Structure	8	**1.0**
Increasing instruction time on core subjects	4	**0.5**
Types of Measures		
Final Teacher awarded Marks	71	**8.8**
Description of Quality Measures	504	**62.5**
Locally Developed/Teacher Made Tests	120	**14.9**
Measures Based on CAMP Materials	14	**1.7**
Observation/Checklists	109	**13.5**
Participation Rates in Provincial Achievement Tests/Diploma Exams	21	**2.6**
Provincial Achievement Tests	315	**39.0**
Provincial Diploma Examinations	59	**7.3**
School Records	123	**15.2**
School Completion/Graduation Measures	16	**2.0**
Standardized Tests	185	**22.9**
Surveys	479	**59.4**
Other Program Participation Measures	101	**12.5**

Appendix C: Calculating Effect Sizes and Percentiles

This appendix[1] has three parts: effect sizes for continuous data, effects for proportions, and effect sizes transformed into proportions.

Effect Sizes for Continuous Data

In the analysis of research that compares treatments, effect sizes are often calculated in the following way:

$$\Delta = \frac{\overline{X}_T - \overline{X}_C}{s_C} \quad (1)$$

where $\overline{X}_T$ is the mean of the treatment group, $\overline{X}_C$ is the comparison group, and s_C is the standard deviation of the comparison group. The summary statistic, D expresses the difference in standard deviation units. This transformation allows us to compare the effects of treatments when the assessments have been carried out using different instruments. In the present circumstance, if the baselines and targets were stated as means, and if the jurisdictions provided means and standard deviations for the observed performance (the 'actual' values), then it would be possible to express results in terms of effect sizes:

$$\Delta_A = \frac{\overline{X}_A - \overline{X}_B}{s_B} \quad (2)$$

where $\overline{X}_A$ is the actual mean attained, $\overline{X}_B$ is the mean at baseline, and s_B is the standard deviation at baseline, and Δ_A is the effect size of the treatment relative to the baseline condition. Knowing the means and standard deviations for each of the numerical indicators would make it possible to express progress in terms of effect sizes.

Effect Sizes for Proportions

The calculation of effect sizes using proportions is somewhat more complex than the calculation using means. It is possible to treat proportions simply as the average score in dichotomous data, and the resulting effect size would be:

$$\Delta_T = \frac{p_T - p_C}{\sqrt{p_C(1-p_C)}} \quad (3)$$

[1] Excerpts from a paper prepared by Thomas Maguire on the framework for evaluating AISI, March 22, 2001.

Expression (3) is the same as expression (1) except the original scores have only two values, 1, or 0. The denominator is the standard deviation of dichotomous variables, and p_C and p_T are the proportions of people in the comparison and treatment groups who receive a score of 1 (i.e. achieve a certain standard, subscribe to a particular opinion, etc.)

The problem with expression (3) is that it does not behave very well when the proportions are near one or zero. Although the standard deviation gets smaller as you approach the boundary values of 1 and 0, it is almost impossible to attain a reasonable effect size when the comparison proportion is high to begin with, and it is very easy to declare a small difference in proportions important when the comparison value is near zero.

To get around this problem Glass, McGaw and Smith (1981) suggest that the proportions be transformed to probits, logits or some other reasonable function. To clarify their recommendation, consider the case of a jurisdiction that has 60% of its students achieving an Acceptable level on the grade 6 achievement test in mathematics, they set their target at 65%, and later they find that 68% of their students actually meet the target. Glass et al reason that you could consider that students are arrayed along the achievement continuum. The Acceptable standard is a point on the continuum, above which 60% of the students fall at baseline time (the cutting score). Alberta Learning fixes the metric of the continuum when the tests are created and the means and standard deviations are calculated, but without loss in meaning, we can treat the continuum as being on a scale with a mean of zero and a standard deviation of one. If the underlying distribution of scores can be approximated by a normal distribution, then the distance of the cutting score from the mean at baseline can be determined by finding **the unit normal deviate that corresponds to the proportion, 60%.** This value is +. 25. Converting the actual value of 68% yields a value of approximately 0.47.

The difference between the baseline and the actual is .47 - .25 = **.22 standard deviations**. In other words, this hypothetical jurisdiction achieved an effect of almost one quarter of a standard deviation (.22).

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Effect Sizes Transformed into Percentiles

The table below shows conversions of effect sizes to percentile ranks and percentile gains if we assume that the data is normally distributed. **A percentile rank** is the proportion of scores in a distribution that a specific score is greater than or equal to. For instance, if you received a score of 95 on a math test and this score was greater than or equal to the scores of 88% of the students taking the test, then your percentile rank would be 88. You would be in the 88th percentile. **A percentile gain** is the difference between the percentile rank of an average person who received an intervention compared that of an average person in the control group. For example an effect size of 0.4 means that an average person who received the program moved 16 percentile points higher than they would be if they did not receive the program.

Effect Size	Percentile Rank	Percentile Gain	Interpretation
0.01	50.4	0.4	
0.05	52.0	2.0	minimal
0.10	54.0	4.0	
0.15	56.0	6.0	
0.20	57.9	7.9	small
0.25	59.9	9.9	
0.30	61.8	11.8	
0.35	63.7	13.7	medium
0.40	65.5	15.5	
0.45	67.4	17.4	
0.50	69.1	19.1	
0.55	70.9	20.9	
0.60	72.6	22.6	
0.65	74.2	24.2	
0.70	75.8	25.8	
0.75	77.3	27.3	large
0.80	78.8	28.8	
0.85	80.2	30.2	
0.90	81.6	31.6	
0.95	82.9	32.9	
1.00	84.1	34.1	
1.10	86.4	36.4	
1.20	88.5	38.5	
1.50	93.3	43.3	
1.80	96.4	46.4	
2.00	97.7	47.7	
2.50	99.4	49.4	
3.00	99.9	49.9	
3.50	100.0	50.0	

Effect Sizes Transformed into Percentiles

The table below shows conversions of effect sizes to percentile ranks and percentile gains if we assume that the data is normally distributed. **A percentile rank** is the proportion of scores in a distribution that a specific score is greater than or equal to. For instance, if you received a score of 95 on a math test and this score was greater than or equal to the scores of 88% of the students taking the test, then your percentile rank would be 88. You would be in the 88th percentile. **A percentile gain** is the difference between the percentile rank of an average person who received an intervention compared that of an average person in the control group. For example an effect size of 0.4 means that an average person who received the program moved 16 percentile points higher than they would be if they did not receive the program.

Effect Size	Percentile Rank	Percentile Gain	Interpretation
0.01	50.4	0.4	
0.05	52.0	2.0	minimal
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0.15	56.0	6.0	
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0.25	59.9	9.9	
0.30	61.8	11.8	
0.35	63.7	13.7	medium
0.40	65.5	15.5	
0.45	67.4	17.4	
0.50	69.1	19.1	
0.55	70.9	20.9	
0.60	72.6	22.6	
0.65	74.2	24.2	
0.70	75.8	25.8	
0.75	77.3	27.3	large
0.80	78.8	28.8	
0.85	80.2	30.2	
0.90	81.6	31.6	
0.95	82.9	32.9	
1.00	84.1	34.1	
1.10	86.4	36.4	
1.20	88.5	38.5	
1.50	93.3	43.3	
1.80	96.4	46.4	
2.00	97.7	47.7	
2.50	99.4	49.4	
3.00	99.9	49.9	
3.50	100.0	50.0	

Appendix D: Provincial Achievement Test Results

Percentage of Students Achieving Provincial Standards (Acceptable and Excellence)

	Baseline (1998-2000)	1998	1999	2000	2001	2002	2003	3-Yr Avg. (2001-2003
English Language Arts								
LA3 Acceptable Writers								
AISI	89.2	87.0	89.3	91.4	90.4	90.4	90.9	90.6
Non-AISI	86.3	84.5	85.9	88.1	85.5	86.5	88.0	86.7
Province	88.5	86.0	88.7	90.7	89.4	89.6	90.1	89.7
LA3 Excellent Writers								
AISI	16.5	15.0	15.5	19.0	16.9	16.3	16.8	16.7
Non-AISI	16.3	14.6	15.4	18.6	17.6	16.5	17.9	17.4
Province	16.8	15.2	15.8	19.3	17.4	16.4	17.2	17.0
LA3 Cohort Acceptable								
AISI	84.8	82.4	85.3	86.7	85.8	84.2	85.6	85.2
Non-AISI	80.3	79.8	79.9	80.9	78.1	78.2	78.4	78.2
Province	82.7	80.3	83.5	84.3	82.8	81.2	82.4	82.1
LA3 Cohort Excellent								
AISI	15.7	14.2	14.8	18.0	16.1	15.1	15.8	15.7
Non-AISI	15.2	13.8	14.3	17.1	16.1	14.9	16.0	15.6
Province	15.7	14.2	14.9	17.9	16.1	14.9	15.7	15.6
LA6 Acceptable Writers								
AISI	85.6	84.7	84.9	87.0	85.9	89.3	90.0	88.4
Non-AISI	83.2	83.3	82.1	84.1	84.1	87.1	87.0	86.1
Province	84.8	83.8	84.4	86.3	85.4	88.6	89.2	87.7
LA6 Excellent Writers								
AISI	17.3	14.3	17.1	20.4	15.7	15.7	18.3	16.5
Non-AISI	17.8	13.8	17.1	21.6	16.8	17.8	19.7	18.1
Province	17.6	14.4	17.4	20.9	16.2	16.5	19.0	17.2
LA6 Cohort Acceptable								
AISI	81.2	80.5	80.3	82.7	80.8	83.1	84.1	82.6
Non-AISI	78.0	79.9	76.6	77.7	76.8	79.4	77.4	77.9
Province	79.1	78.4	78.6	80.3	78.7	80.8	81.2	80.2
LA6 Cohort Excellent								
AISI	16.4	13.5	16.2	19.4	14.8	14.6	17.1	15.5
Non-AISI	16.7	13.2	16.0	20.0	15.3	16.3	17.6	16.4
Province	16.4	13.5	16.2	19.4	14.9	15.1	17.3	15.8

	Baseline (1998-2000)	1998	1999	2000	2001	2002	2003	3-Yr Avg. (2001-2003
LA9 Acceptable Writers								
AISI	89.2	88.5	88.6	90.5	90.2	90.8	90.2	90.4
Non-AISI	86.8	86.5	85.7	88.0	87.5	88.4	87.8	87.9
Province	88.2	87.4	87.6	89.5	89.2	89.8	89.2	89.4
LA9 Excellent Writers								
AISI	13.1	11.4	12.2	15.6	15.3	17.1	15.8	16.1
Non-AISI	12.2	10.4	11.7	14.3	14.6	16.6	15.4	15.5
Province	12.8	11.3	12.1	15.1	14.9	16.7	15.4	15.7
LA9 Cohort Acceptable								
AISI	82.5	81.8	81.8	83.7	82.2	82.2	81.3	81.9
Non-AISI	77.4	79.4	75.9	77.2	75.5	75.5	74.3	75.1
Province	78.9	78	78.5	80.1	78.8	78.5	78.0	78.4
LA9 Cohort Excellent								
AISI	12.1	10.6	11.3	14.4	13.9	15.5	14.2	14.5
Non-AISI	10.9	9.6	10.4	12.5	12.6	14.2	13.0	13.3
Province	11.5	10.1	10.8	13.6	13.1	14.6	13.5	13.7
Mathematics								
MA3 Acceptable Writers								
AISI	86.0	82.2	86.0	89.5	89.3	89.8	90.5	89.9
Non-AISI	83.5	80.2	83.5	86.6	85.9	87.3	88.1	87.1
Province	84.4	80.5	84.8	87.9	87.6	88.7	89.3	88.5
MA3 Excellent Writers								
AISI	24.8	21.2	25.8	27.4	26.7	29.2	33.1	29.7
Non-AISI	24.0	20.2	24.7	26.8	24.5	28.5	31.5	28.2
Province	24.5	20.7	25.2	27.5	25.4	29.2	32.4	29.0
MA3 Cohort Acceptable								
AISI	81.9	77.8	82.0	85.7	85.4	85.2	85.9	85.5
Non-AISI	78.9	75.9	79.3	81.1	80.7	80.7	81.2	80.8
Province	79.2	75.2	80.2	82.1	81.8	81.2	82.3	81.8
MA3 Cohort Excellent								
AISI	23.6	20.0	24.6	26.2	25.6	27.7	31.5	28.2
Non-AISI	22.7	19.2	23.5	25.1	23.0	26.4	29.0	26.1
Province	23.0	19.4	23.8	25.7	23.8	26.7	29.8	26.8

	Baseline (1998-2000)	1998	1999	2000	2001	2002	2003	3-Yr Avg. (2001-2003
MA6 Acceptable Writers								
AISI	84.0	83.5	83.8	84.8	85.8	85.4	85.1	85.4
Non-AISI	81.5	80.4	81.5	82.6	84.1	83.7	84.5	84.1
Province	83.1	82.0	83.2	84.2	85.4	85.2	85.6	85.4
MA6 Excellent Writers								
AISI	17.1	16.6	17.7	16.9	18.6	19.1	19.4	19.0
Non-AISI	16.1	15.1	16.1	17.1	18.9	19.0	18.9	18.9
Province	17.2	16.8	17.2	17.6	19.3	19.7	19.3	19.4
MA6 Cohort Acceptable								
AISI	80.4	80.0	80.2	81.1	81.9	80.6	80.5	81.0
Non-AISI	76.8	76.8	76.1	77.5	77.9	77.0	76.6	77.2
Province	77.9	77.3	77.5	78.9	79.3	78.3	78.3	78.6
MA6 Cohort Excellent								
AISI	16.3	15.9	16.9	16.2	17.8	18.0	18.3	18.0
Non-AISI	15.2	14.4	15.0	16.1	17.5	17.5	17.1	17.4
Province	16.1	15.9	16.0	16.5	17.9	18.1	17.7	17.9
MA6 Acceptable Writers								
AISI	72.6	71.0	72.1	74.4	75.0	72.8	71.2	73.0
Non-AISI	72.7	72.5	72.0	73.6	74.9	73.8	72.8	73.8
Province	72.9	71.9	72.4	74.4	75.2	73.7	72.6	73.8
MA9 Excellent Writers								
AISI	15.0	14.0	15.4	15.5	17.5	18.4	19.1	18.4
Non-AISI	15.9	14.6	16.1	16.9	20.1	20.4	20.9	20.5
Province	15.3	14.3	15.5	16.1	18.4	19.1	20.1	19.2
MA9 Cohort Acceptable								
AISI	67.0	65.9	66.2	68.7	68.6	65.8	64.0	66.1
Non-AISI	64.7	65.9	63.2	65.1	64.8	63.2	61.7	63.2
Province	65.2	64.3	64.4	66.9	66.5	64.5	63.5	64.8
MA9 Cohort Excellent								
AISI	13.8	13.0	14.1	14.3	16.0	16.7	17.1	16.6
Non-AISI	14.2	13.3	14.1	15.0	17.4	17.4	17.7	17.5
Province	13.7	12.8	13.8	14.4	16.3	16.7	17.6	16.9

Participation Rates on Provincial Achievement Tests

	Number of Schools	Number of Students*	Baseline (1998-2000)	1998	1999	2000	2001	2002	2003	3-Yr Avg. (2001-2003
English Language Arts										
La3										
AISI	745	80401	95.0	94.6	95.6	94.9	94.8	93.2	94.2	94.1
Non-AISI	419	27972	93.0	94.4	93.1	91.9	91.4	90.4	89.0	90.2
Province			93.5	93.3	94.1	93.0	92.6	90.6	91.5	91.6
LA6										
AISI	674	73824	94.9	95.0	94.6	95.1	94.1	93.1	93.5	93.5
Non-AISI	439	30117	93.8	95.9	93.4	92.4	91.3	91.2	89.0	90.5
Province			93.2	93.5	93.1	93.0	92.1	91.2	91.0	91.4
LA9										
AISI	364	62105	92.5	92.5	92.4	92.5	91.1	90.5	90.2	90.6
Non-AISI	336	33219	89.2	91.8	88.6	87.7	86.2	85.3	84.6	85.4
Province			89.5	89.3	89.7	89.6	88.3	87.5	87.4	87.7
Mathematics										
MA3										
AISI	326	32216	95.2	94.6	95.3	95.8	95.7	94.9	94.9	95.2
Non-AISI	728	63156	94.5	94.7	95.0	93.7	93.9	92.4	92.1	92.8
Province			93.5	93.1	94.3	93.0	93.1	91.2	91.7	92.0
MA6										
AISI	340	37345	95.7	95.8	95.7	95.7	95.5	94.4	94.5	94.8
Non-AISI	719	58777	94.2	95.5	93.4	93.9	92.7	92.0	90.6	91.7
Province			93.4	94.0	92.9	93.4	92.6	91.6	91.1	91.8
MA9										
AISI	255	54826	92.3	92.8	91.8	92.4	91.5	90.4	89.9	90.6
Non-AISI	417	38055	88.9	90.9	87.7	88.5	86.5	85.6	84.8	85.6
Province			89.0	89	88.6	89.5	88.0	87.0	86.8	87.3

*Number of student includes all students in 2001, 2002, and 2003.